

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts. SECTOR~7 --- CHART~INFORMATION

# **SECTOR 7**

### NORTHEAST COAST OF NEWFOUNDLAND—CAPE FREELS TO CAPE ST. JOHN

Plan.—This sector describes the NE coast of Newfoundland, between Cape Freels and Cape St. John. The sequence of description is NW to Ladle Point (49°29'N., 54°03'W.), then the off-lying islands and coast between Ladle Point and Farewell Harbor (49°33'N., 54°29'W.), followed by a description of the island groups and inlets of Notre Dame Bay.

### General Remarks

The NE coast of Newfoundland, between Cape Freels and Notre Dame Bay, is generally low and flat and without conspicuous marks except for Windmill Head (49°17'N., 53°34'W.). The W part of this coast is fronted with numerous off-lying islands and dangers.

Notre Dame Bay contains many wooded islands and it shores are indented by numerous inlets, many of which require local knowledge to transit. Lewisporte, Botwood, and Springdale are the principal harbors.

Winds—Weather.—June is the foggiest month on this coast, with an average of 10 days with fog at Fogo Harbor. The frequency of fog decreases rapidly inland, where the average for June in the same latitude is only 1 day. Fog is frequent in the Bay of Exploits, but seldom lasts more than a few hours.

**Ice.**—Ice in pack form has its mean limit in June off the NE coast in about 50°N. There is no other pack ice except in the vicinity of Belle Isle Strait. Northern ice arrives on the E coast of Fogo Island during the latter half of January, closing the coast with E winds. Sometimes the coast is clear in April, at others, with a prevalence of N winds, navigation is stopped during May and even in July. In May and June when the ice is compact from Funk Island to Cape Fogo, Change Island Tickle, and Stag Harbor Tickle are often clear enough for a vessel to pass through.

Most of the inlets and harbors of Notre Dame Bay are open to navigation during the month of May.

Tides—Currents.—The Labrador Current is strong off Cape St. John and usually sets S. About 2 miles off Fogo Head the S current divides. The main branch sets E along the N coast of Fogo Island and among the off-lying islands at a velocity of 1 to 1.5 knots. After passing Round Head, the current sets S following the E coast of Fogo Island.

This current is greatly influenced by the winds and tidal currents. Northerly winds accelerate the current and S winds retard it. Before E gales the current may set N. The ebb, or S tidal current, accelerates the current; the flood, or N tidal current, retards it, but only occasionally at springs is its velocity rendered inappreciable by the latter.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for further information.

## **Cape Freels to Fogo Island**

Cape Freels (49°16'N., 53°30'W.) is low, rocky, and formed by the points of South Bill, Middle Bill, and North Bill.

**Ice.**—Ice closes navigation in the area around Cape Freels around January 15, with the average opening date about May

Funk Island (49°45'N., 53°11'W.), nearly flat, lies about 31 miles NNE of North Bill. The island is a bird sanctuary and landing is prohibited without a permit. A conspicuous cairn, 15m high, is located centrally at the W part of the island. Landing can be effected in calm weather at Gannet Head, on the SW side, and on the N side of Indian Gulch, an inlet close S of the E end of the island. About 0.1 mile W of the E end, there is a steep cliff at which the sea rises and falls without breaking, so that even in a high sea landing can be made on The Bench, a shelf about 1.2m wide which slopes up the steep cliff.

Brenton Rock (49°41'N., 53°17'W.), with a depth of 2.8m, and Funk Island, are both encircled by shoals and rocky patches with depths of 3.7 to 29.3m. The sea breaks on all of these dangers in heavy weather.

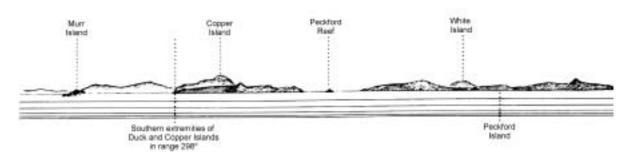
7.3 Lumsden Harbor (Cat Harbor) (49°18'N., 53°35'W.), entered between the Inner Cat Islands and the Outer Cat Islands, is available only to small vessels with local knowledge. The harbor freezes between January 1 and February 1, clearing again as soon as the ice leaves the coast. Range lights, in line bearing 236°11', are shown from towers with white diamond-shaped topmarks, situated at the head of the harbor. Lumsden Breakwater South Light and South Tickle Light are each shown from a mast situated on the outer end of the breakwaters adjacent to the wharf.

**Deadman's Bay** (49°20'N., 53°39'W.) is entered between Northern Cat Island (49°20'N., 53°36'W.) and Deadman's Point (49°22'N., 53°41'W.). Deadman's Rock, with a depth of 4.3m, lies 1.5 miles N of the point. Several patches, with depths of 9.1 to 20.1m and on which the sea breaks in heavy weather, lie in the approaches and off the entrance to this bay.

**Anchorage.**—Anchorage during the summer months can be taken at the W side of the bay, sheltered from W and S winds, in depths of 9.1 to 18.3m, good holding ground.

Muddy Point (49°27'N., 53°56'W.), a coastal penin-7.4 sula, is marked by a light shown from a mast. The Penguin Islands (49°27'N., 53°49'W.), consisting of two islands, lie on foul ground. The N island is marked by a light; the tower of the old light stands on the E end of the island. Edwards Reef (49°27'N., 53°52'W.), lying between the islands and Muddy Point, consists of above and below-water rocks and reefs. South Rock (49°29'N., 53°54'W.), with a depth of 2.4m, is marked 1.2 miles W by a lighted whistle buoy. Doting Cove (49°27′N., 53°56′W.) is an open bight with a small pier.

Musgrave Harbor (49°27'N., 53°58'W.), a fishing settlement, is situated on the shores of Muddy Hole, a small bay



South group of the Wadham Islands from SE

close W of Muddy Point. A light is shown from a mast on the outer end of the breakwater. There is a conspicuous church with a red roof at the settlement where there is a shallow depth public wharf. A red light is shown from the head of the wharf and three lighted buoys mark some of the obstructions in the harbor.

**Anchorage.**—Anchorage can be taken off Muddy Hole, in a depth of 12.8m.

**7.5** Ragged Harbor (49°27'N., 54°00'W.), entered S of Ragged Point (49°28'N., 54°00'W.) and protected by a breakwater, affords good temporary anchorage for small vessels with local knowledge off **White Point** (49°27'N., 54°00'W.), in a depth of 7.3m. There is a disused light structure on the point. The fall of the ridge on Ragged Point, in line with White Point bearing 218°, leads into the harbor.

The **Wadham Islands** (49°33'N., 53°49'W.), a group of small islands lie as far as 12 miles NE from Ragged Point. There are numerous islets and reefs scattered between the various islands. **Offer Wadham** (49°35'N., 53°46'W.), the NE island of the group, has a good small boat harbor on its NW side. Several rocky patches, with depths of 11 to 18.3m and on which the sea breaks in rough weather, lie within 8 miles ENE and 4 miles SE of Offer Wadham; these dangers are marked by a light shown from a tower at the N end of the island.

Ice.—Northern ice arrives at Offer Wadham between January 10 and January 20. The vicinity of Copper Island (49°33'N., 53°58'W.) is often cleared of ice by the S current from Cape Fogo. **Peckford Island** (49°32'N., 53°51'W.), the SE and largest island of the group, has a sharp peak at its NE end. A light is shown from a black and white striped building on the SE end of the island, and a radio tower is situated close WNW of the light. A light is shown from a circular tower with a red and white rectangular daymark on **Muddy Shag Island** (49°29'N., 53°57'W.).

**7.6 East Southeast Ground** (49°35'N., 53°43'W.), rocky with a depth of 4.6m, lies 1.75 miles E of Offer Wadham. Tom Cod Rock, with a depth of 4m, lies 0.75 mile SE of the same island.

South Southwest Rock, which dries 0.3m, lies about 2.4 miles S of Offer Wadham.

Small Island, 8.8m high, lies 0.6 mile SW of Offer Wadham. Coleman Island, over 15m high and larger than Small Island, lies about 1.8 miles SW of that island.

White Island, 1 mile NW of Peckford Island, is barren and nearly flat-topped. Shag Island lies about 0.8 mile E of White Island.

Duck Island, lying 1 mile SW of White Island, has a small peak near its center, 18m high. Duck Rock, with a depth of 5.5m, lies about 0.8 mile WSW of Duck Island.

Copper Island, the W and highest island of the group, lying about 1.5 miles NW of Duck Island, is 57m high.

Frampton Rock, with a depth of 5.5m, lies nearly 2.2 miles W of Copper Island. Fishing Rock, lying nearly 2 miles WNW of Frampton Rock, has a depth of 8.5m.

**Directions.**—The Wadham Islands are cleared S by passing through the channel between South Rock and Edwards Reef. The S extremity of Copper Island and Duck Island, in line bearing 298°, lead through the channel between Schoolroom Rock and Scrub Rock, about midway between Peckford Island and South Rock.

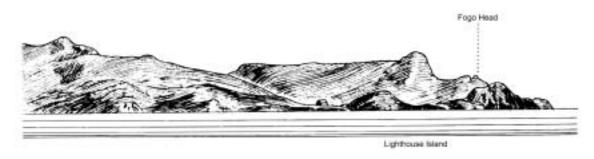
## Fogo Island

7.7 Fogo Island (49°40'N., 54°10'W.), large and rather high, is separated from the Indian Islands to the S by Stag Harbor Tickle, a constricted, intricate channel preferred by coastal vessels instead of Hamilton Sound. The coasts of Fogo Island are rocky and deeply indented, affording indifferent shelter, except for small vessels. The best harbors are Seldom Harbor, Fogo Harbor, and Hare Bay. Fogo Island is bordered by numerous rocks, islands, and shoals which extend as far as 9 miles N and 19 miles NE from it and on which the sea breaks at times.

**Ice.**—Northern ice arrives off the E coast of Fogo Island during the latter half of January, closing the coast with E winds. Sometimes, the coast is clear in April; at other times, with a prevalence of N winds, navigation is stopped during May and even in July. Northern ice arrives at Joe Batt's Arm early in January.

Fogo Harbor usually freezes over between January 9 and 19. The harbor is completely blocked with ice about 0.6m thick until about April 23. Stag Harbor Tickle freezes solid in January; the ice breaks up between May 1 and May 10. Seldom Cove freezes between January 1 and January 10. Sometimes it remains frozen as late as June, but at other times it clears as early as the middle of February. Field ice usually arrives early in February and sometimes remains until June.

**Tides—Currents.**—A S current setting towards Fogo Island splits about 2 miles off Fogo Head, with a branch setting close along the N coast of the island, and among the rocks and islands off it at a rate of 1 to 1.5 knots; this branch is influenced



Fogo Head, with Lighthouse Island summit bearing 258°

by the winds, being accelerated by N and retarded by S winds. Before E gales the current sometimes sets to the N. This current is also influenced by the tidal currents, the ebb current accelerating and the flood current retarding it, but only occasionally at spring tides is its rate rendered inappreciable by the latter.

A branch of the S current sets to the S between Fogo and the Change Islands at a rate of about 0.5 knot, but it dies away before reaching Stag Harbor Tickle.

A SE set is usually experienced NE of Fogo Island in the vicinity of **Snap Rock** (49°53′N., 53°42′W.).

**Cape Fogo** (49°39'N., 54°00'W.), the E extremity of Fogo Island, is a bold headland about 65m high. Between Cape Fogo and **Round Head** (49°45'N., 54°06'W.), the conspicuous NE end of the island, the shore is indented by three small inlets, of which **Tilton Harbor** (49°42'N., 54°04'W.) is the most notable.

The current turns E along the N coast of Fogo Island and, after passing Round Head, becomes S following the E coast. The current is affected by the tidal currents, with the ebb or S current accelerating it and the flood or N current retarding it, so that occasionally at springs it masks the current entirely.

**Caution.**—During the summer months, fishing nets may be encountered off the E coast of Fogo Island.

**7.8** Tilting Harbor (Tilton Harbor) is entered close SW of **Pigeon Island** (49°43'N., 54°03'W.) lying close offshore. A light shown at the W entrance point of the harbor from a tower which is partially obscured by the island. Piers in the harbor have depths of 0.3 to 0.9m alongside.

**Off-lying dangers.—Snap Rock** (49°53'N., 53°42'W.), the outermost danger, has a least depth of 1.8m. In calm weather, there is little indication of its existence, at other times the sea breaks on it. A possibly dangerous area lies 1.5 miles S of the rock. **Blakeys Ground** (49°55'N., 53°43'W.), with a least depth of 16.5m, breaks in heavy weather.

Cromwell Ledge, with a least depth of 7.6m, lies about 11 miles ENE of Round Head. Clery Ledge, with a depth of 9.1m, lies about 1 mile SW of Cromwell Ledge. The sea breaks on both of these ledges in heavy weather.

The **Barrack Islands** (49°48'N., 53°58'W.) and various charted ledges and rocks, with depths of 3.7 to 5.5m, lie between Cromwell Ledge and Round Head.

**7.9 North side of Fogo Island.**—Joe Batt's Point is the small peninsula forming the N point of the island. Brooks Point is the N extremity of this peninsula. The W side of the penin-

sula is low and shelving, extending 2 miles S and forming the E side of Joe Batt's Arm. A light is shown from a white, square tower standing on Brooks Point.

**Joe Batt's Arm** (49°44'N., 54°10'W.), encumbered with rocks, requires local knowledge to enter. There is a pier with a depth of 2.1m alongside at the W side of the arm. Lights are shown from masts on a rock at the entrance to the arm and at the head of the pier. Anchorage can be taken, in a depth of about 20.1m, with Joe Batt's Point Light bearing 060°, 1.25 miles distant.

**Barr'd Island** (49°44'N., 54°11'W.), from which a light is shown, lies about 1 mile W of the entrance to Joe Batt's Arm. Dean Rock, with a depth of 0.3m, and on which the sea usually breaks, lies 0.75 mile N of Barr'd Island. **Brimstone Head** (49°43'N., 54°18'W.), bearing 240° and seen through Fogo Harbor entrance, leads NW of Dean Rock.

**Shoal Bay** (49°43'N., 54°12'W.), entered NW of Barr'd Island, affords safe summer anchorage, in depths of 14.6 to 18.3m, near its head. Local knowledge is required.

**7.10** Fogo Harbor (49°43'N., 54°17'W.) (World Port Index No. 1590) is entered between Garrison Point (49°44'N., 54°17'W.) and Pilly Point, about 0.3 mile E. Fogo Head (49°44'N., 54°19'W.) is steep and rocky, rising to 103m close inland. Lanes Lookout, 117m high, is the highest elevation on the island and rises on the E side of the harbor.

**Anchorage.**—Anchorage can be taken at the E side of the harbor, in depths of 7.3 to 12.8m, mud. This anchorage is not recommended during N gales, as the sea breaks into the harbor. Vessels should move to the anchorage in Seal Cove before the onset of a N gale.

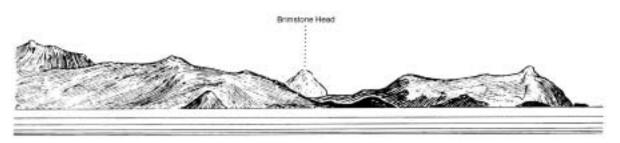
A chain of islands fronts the entrance of the harbor; a wreck lies close NW of Garrison Point. There are E and W entrance channels, with the W, which is the preferred channel between Fogo Head and Boastswain Island, constricted by shoals, but having a least depth of 7m. The E channel, only 15.2m wide, has a least depth of 6.1m between **Rags Island** (49°44'N., 54°16'W.) and Simms Island, 0.1 mile W. A light is shown from a white tower on Rags Island. Moderate seas break over these islands.

The town, situated on the shore of the harbor, is the center of a fishing industry. The head of the harbor is divided into two coves by a tongue of land. At the head of the W cove, encumbered and shoal, is a canal 0.6m deep spanned by a bridge with a 3.4m vertical clearance. The canal leads to **Seal Cove** (49°43'N., 54°17'W.).

The harbor pilot should be employed to enter Fogo Harbor.



Fogo



Fogo Harbor entrance, with Brimstone Head bearing 240°

A public breakwater and wharf, 89m long, with depths of 1.2 to 2.7m along the inside S face, extends E from Wigwam Point. Another wharf extends S at a right angle to this wharf.

Millers Wharf, on the S side of Little Harbor, and other wharves on the W side, are in ruins.

**Directions.**—Local knowledge is required for navigating the approaches to Fogo Harbor.

Vessels approaching from the E should pass N of Dean Rock and continue W until the summit of Fogo Head is in line with

the highest point of Simms Island bearing 249°. Keep these marks in line ahead until Rags Island Light bears 150°, when course can be changed to 180° for the E side of the entrance to the approach channel, passing about 120m W of the light, this facilitates a sharp turn to W close within the entrance, and avoids shoals with a least depth of 4.3m which extend up to 150m between SE and S from the E extremity of Simms Island.

When entering the W approach channel keep to the side, as with a heavy sea running, there is a considerable rebound from

the cliffs. After passing Boatswain Island, keep close to Barnes Island to avoid a bank with a least depth of 1.5m extending over 90m N from Garrison Point, the W entrance point of Fogo Harbor. A stranded wreck which lies on the bank is prominent.

**7.11** Off-lying dangers.—The Little Fogo Islands (49°49'N., 54°05'W.) consist of a group of islands and rocks lying from 3.5 to 5 miles N of Round Head. The N extremity of the E and highest island of the group is marked by a light shown from a square tower. **Bishops Island** (49°50'N., 54°05'W.), 3m high, lies on the S part of a shallow rocky bank about 5 miles N of Round Head.

**Ireland Rocks** (49°51'N., 54°02'W.), three detached steep-to sunken rocks on which the sea usually breaks, lie about 7 miles NNE of Round Head. **Hard Hat** (49°53'N., 54°01'W.) and **Green Bay Shoal** (49°54'N., 54°05'W.) break in heavy weather.

The **Turr Islands** (49°50'N., 54°09'W.) and the **Storehouse Islands** (49°49'N., 54°11'W.) are the highest and most conspicuous groups in the area. A wooden cross, about 9.1m high, stands on the highest point of the largest Storehouse Island. A light is shown from a square tower on one of the islands. **Gappy Island** (49°46'N., 54°16'W.) is small but conspicuous.

Gull Rock, with a depth of 3.7m, lies about 0.8 mile E of the highest Turr Island. Mile Island lies 1.5 miles S of the same island. Lotts Rock, awash, lies 0.5 mile WNW of the highest Turr Island.

The **Seals Nest Islands** (49°48'N., 54°12'W.) is a group from 3 to 9.1m high, which lie about 2 miles W and SW of Mile Island. The Countryman Islands and the Long Islands are similar groups lying between the Seals Nest Islands and Gappy Island. Other detached dangers are best seen on the chart.

**7.12 West side of Fogo Island.—Brimstone Head** (49°43'N., 54°18'W.) rises to a promontory which is fringed by rocks and reefs extending up to 0.5 mile offshore. Seal Cove, on the S side of the head, is entered through a narrow passage between shoals. An L-shaped pier, with a depth of 4.9m alongside, is situated on the NW side of the cove. A light is shown from the pier and at the SW end of the boat canal leading to Fogo Harbor. Range lights, in line bearing 077°, are situated about 0.3 mile SSE of Fogo Light, at the head of Seal Cove.

Seal Cove provides good anchorage for vessels during adverse weather. Within the harbor there are general depths from 10.1 to 18.3m.

**Hare Bay** (49°40'N., 54°17'W.) is entered between **Long Point** (49°42'N., 54°18'W.) and **Hare Bay Head** (49°40'N., 54°19'W.). The bay entrance is constricted to a width of 0.2 mile by the Leveret Islands. The SW foreshore is foul, and the NE shore is steep-to and clear of dangers. A rock, with a depth of 2.1m, lies 0.15 mile NNW of the NE Leveret Island and 0.75 mile offshore.

Anchorage can be taken, in depths of 7.3 to 21.9m, mud, in Hare Bay. There is a small craft anchorage, in a depth of 3.7m, SW of the southeasternmost Leveret Island.

**Hare Island** (49°36'N., 54°22'W.) lies in the channel between Fogo and the Change Islands, and is surrounded by drying reefs and submerged dangers.

Watch Island lies less than 0.8 mile SE of Hare Island. Watch Rock, with a least depth of 0.3m and on which the sea breaks in moderate weather, lies in mid-channel between Watch Island and Fogo Island. **Island Harbor Head** (49°37'N., 54°19'W.), a small but conspicuous bluff, has a boat harbor on its SE side.

**Rogers Point** (49°35'N., 54°19'W.) is the SW point of Fogo Island. Woody Island, lying 2 miles W of the point, is separated from Change Island by a narrow channel.

**7.13** South side of Fogo Island.—Stag Harbor Tickle (49°33'N., 54°18'W.) is the passage between the SW end of Fogo Island and the Indian Islands to the S. Cann Island (49°35'N., 54°11'W.) is marked by a light.

The passage freezes solid in January and the ice breaks up between May 1 and May 10. There is a controlling depth of 9.1m in the passage. Although narrow and intricate in its S part, the passage, which is buoyed, is used by coastal traffic in preference to that through Hamilton Sound. **Eastern Indian Island** (49°32'N., 54°13'W.) is low, flat, and has a monument on its N side. **Western Indian Island** (49°33'N., 54°18'W.) is low and covered with stunted trees. There is a wharf with 1.8m alongside. A light is shown from a square tower on the E end of **Blundon's Island** (49°33'N., 54°13'W.).

**Anchorage.**—Anchorage can be taken, in a depth of 3.7m, mud, between the Eastern Indian Islands and the Western Indian Islands, also in **Little Seldom Cove** (49°36'N., 54°13'W.), in 11 to 18.3m, mud. These are summer anchorages.

**7.14 Seal Rock** (49°33'N., 54°17'W.) is marked by a light. **Stag Rock** (Man of War Rock), 0.9m deep, lies on the edge of the coastal bank 0.1 mile S of the S extremity of Fogo Island and is marked by a buoy. The constricted W end of Stag Harbor Tickle is marked by buoys on the S and N sides of the channel. **Indian Lookout** (49°34'N., 54°19'W.), a conspicuous coneshaped islet, lies in the constricted area.

**Stag Harbor** (49°34'N., 54°16'W.) is open to the E and unsuitable for anchoring. There is an L-shaped pier, with a depth of 4m alongside, extending from the N side of the harbor.

**Seldom Harbor** (49°36'N., 54°10'W.) is a cove entered between **Tinker Rock** (49°35'N., 54°10'W.) and **Burnt Point** (49°36'N., 54°09'W.), both of which are marked by lights. A buoy is moored on the S side of a reef extending about 0.3 mile SW of Burnt Point. A high hill is conspicuous about 1.3 miles NW of Burnt Point. **Black Reef** (49°36'N., 54°10'W.), partly drying, lies about 1 mile WSW of Burnt Point, and another shoal area, with a depth of 7.3m, lies about 0.5 mile WSW of Burnt Point.

**Ice.**—Seldom Cove freezes between January 1 and January 10, and remains frozen sometimes as late as June, but at other times clears as early as the middle of February. Field ice usually arrives early in February.

**Depths—Limitations.**—Several wharves are situated in the harbor. A fish plant wharf, with depths of 1.2 to 6.1m alongside, lies on the SW side of the harbor. On the NE side of the harbor there is an L-shaped public wharf with a depth of 5.2m alongside the face.

**Anchorage.**—Anchorage can be taken in Seldom Cove, in depths of 11 to 18.3m, mud.

**Wild Cove** (49°37'N., 54°08'W.), **Kippen Cove** (49°38'N., 54°07'W.), and **Cape Cove** (49°39'N., 54°02'W.), none of which affords anchorage, indent the coast between Burnt Point and Cape Fogo. **Western Head** (49°38'N., 54°04'W.), a coastal feature, has a rock with a depth of 5.5m lying 0.75 mile SE of it

## **Hamilton Sound and the Change Islands**

**7.15 Hamilton Sound** (49°30'N., 54°15'W.) is entered from the E between **Ladle Point** (49°29'N., 54°03'W.) and **Grandfather Island** (49°32'N., 54°10'W.). A lighted buoy is moored 0.75 mile NE of the island. Vessels with local knowledge can pass through the sound enroute to Notre Dame Bay.

**Ice.**—In January, Hamilton Sound freezes W of a line joining Eastern Indian Island and **Noggin Island** (49°27′N., 54°15′W.). East winds fill the sound with ice, and winds from between the SE and W clear it. The E part of the sound is often cleared of ice by the S current from Cape Fogo.

**Rocky Bay** (49°26'N., 54°15'W.) is entered between **Rocky Point** (49°27'N., 54°10'W.), the **Noggin Cove Islands** (Grass Islands) (49°28'N., 54°19'W.), and **Noggin Point** (49°26'N., 54°19'W.). The islands are low, with drying ledges and rocks close by. Rocky Bay is divided into four arms, of which the E two are shallow and encumbered. **Noggin Hill** (49°25'N., 54°17'W.), a conspicuous, isolated, and wooded eminence on a promontory, separates Noggin Cove from Carmanville Arm. A radio tower stands on the hill.

Green Island and Noggin Island lie on the same shoal in the middle of the entrance to Rocky Bay. A light is shown from Green Island. **White Island** (49°26′N., 54°13′W.) lies 1 mile SE of Green Island. The channel between the islands is deep and clear of dangers. **Wabby Rock** (49°26′N., 54°15′W.), with a depth of 5.2m, lies on a shoal marked 0.25 mile W of the rock by a buoy. A lighted buoy is moored about 0.8 mile S of Noggin Island.

**Caution.**—Uncharted dangers may exist in the SE part of Rocky Bay, SE of a line joining Rocky Point, White Island, and Twillick Point, the common entrance point of Middle Arm and Carmanville Arm.

**7.16** Carmanville Arm (49°25′N., 54°16′W.) is entered between Twillick Point and a point about 2 miles WNW. There is a lumbering and fishing settlement situated on the W side of the arm. Shoals and above and below-water rocks lie close to the mid-channel range line leading through the arm and to the settlement. Lighted and unlighted buoys mark the edge of the dangers where they encroach on the fairway. Navigation is hampered by ice during the winter. Icebreaker assistance is usually required from January to April.

The port of **Carmanville** (49°24'N., 54°16'W.) is situated in Hamilton Sound, on the W side of Carmanville Arm.

Entrance lights, in line, are shown on the W shore near the head of the arm, which lead between the buoys moored W of Wabby Rock.



Courtesy of Carmanville Harbor Authority

Carmanville

**Depths—Limitations.**—There is an L-shaped public pier, 250m long, with berthing at the outer end, 180m long. The depth alongside at the outer face is 6.2m.

There is a ferry which travels between the pier and Seldom Harbor.

**Aspect.**—A light is shown from a mast at the NE end of the pier. A green spar buoy is moored 0.2 mile S of the wharf.

**Pilotage.**—The use of a pilot is recommended. A pilot may be obtained by prior arrangement with Bowaters at **Corner Brook** (48°57′N., 57°57′W.).

**Anchorage.**—Anchorage can be obtained in the arm, S of the wharf, in depths from 7 to 9m, mud. Care must be taken to avoid a submarine cable which exists between a position close SW of the wharf and the opposite shore SE.

**Directions.**—Vessels approaching Carmanville from the NE should bring the W side of White Island to bear 208° and steer on this bearing until the N side of Green Island is abeam. Change course to pass 0.4 mile S of Green Island and proceed W until the entrance range comes into alignment.

**7.17 Frederickton Harbor** (49°26'N., 54°22'W.), lying about 2 miles W of Noggin Cove, is open to the N and NE so that winds from these directions raise a heavy swell in the harbor. There is a settlement at the head of the harbor. A public pier, with a depth of 4m alongside, is situated near the settlement.

Gander Bay (49°27'N., 54°26'W.) is entered between Tickle Island (49°26'N., 54°23'W.) and Dog Bay Point (49°29'N., 54°27'W.). Gander Island (49°28'N., 54°23'W.) lies in the E part of the entrance. There is a channel, clear of dangers and 0.3 mile wide, between Gander Island and Tickle Island. Storehouse Island (49°24'N., 54°25'W.), and Fox Island (49°24'N., 54°28'W.) lie in Gander Bay.

**Ice.**—Gander Bay freezes about January 1 and the ice clears about May 1.

**Tides—Currents.**—At Clark Point (49°17'N., 54°30'W.), there is an ebb current with a velocity of 2 knots at springs; the flood is weak and at neaps the current is negligible. The Gander River, a considerable stream, flows into the bay above Clark Point.

**Depths—Limitations.**—Clark's Head, a settlement on the W shore near the head of the bay, has a public wharf, with a depth of 3.7m alongside. An overhead power cable, with a vertical clearance of 9.4m, spans between Clark's Head and Salt Island, and has a vertical clearance of 12.5m between Salt Island and the settlement of Gander Bay. A causeway and bridge spans the upper part of Gander Bay. There are settlements at Main Point and **Victoria Cove** (49°21'N., 54°28'W.). A light is shown at Victoria Cove. At the settlement of Mann Point (Davidsville), about 1 mile N of Main Point, there is a public wharf, with a depth alongside of 0.3m.

**Anchorage.**—Anchorage, with local knowledge, can be safely taken in Gander Bay, S of Fox Island where the bottom is mostly mud.

**7.18 Dog Bay** (49°30'N., 54°29'W.) is entered between Dog Bay Point and **Farewell Head** (49°32'N., 54°27'W.), the latter rising to 76m. The bay is fronted by the Dog Bay Islands, which are generally low, except for the N island. The **Dog Islands** (49°29'N., 54°27'W.) are a group of islets and rocks

extending 1.5 miles NW of Dog Bay Point. **Steering Island** (49°31'N., 54°27'W.), steep to, lies in the middle of the entrance of Dog Bay. A light is shown on the island from a round tower. **Vesuvius Rock** (49°31'N., 54°26'W.), drying 0.9m and marked by a buoy, lies in the middle of the fairway between Steering Island and the Dog Islands. Anchorage can be taken SW of Double Island, located 3.75 miles SW of Steering Island, in depths of 7.3 to 14.6m, mud, between some islands and the NW shore. Local knowledge is required.

**7.19 Farewell Harbor** (49°33'N., 54°29'W.) is entered between Farewell Head and a point located about 1.3 miles N. It extends SW for 1 mile to a constricted entrance leading to an arm encumbered with boulders. Farewell Gull Island, lying about 0.3 mile N of the head, is conspicuous from the N or S. A sunken wreck, with a depth of 1.5m, lies in the harbor entrance, close N of the head.

Anchorage can be taken, in depths of 7.3 to 14.6m, mud, about 0.8 mile NNW of Farewell Head.

The **Farewell Duck Islands** (49°35'N., 54°28'W.) are a rugged chain of islands and rocks extending 1.2 miles NNE of the N entrance point of Farewell Harbor, and ending in a drying reef. **Farewell Reef** (49°35'N., 54°27'W.), marked close NE by a buoy, has a depth of 3.7m and is marked by breaking seas in moderate weather. The area for about 2 miles W of the reef is foul.

The **Change Islands** (49°40'N., 54°25'W.) are a group of islands and islets extending almost 7 miles in a N and S direction. **South End** (49°34'N., 54°25'W.), the SW extremity of Change Island, is marked by a light shown from a skeletal tower with white daymarks on the three seaward faces. Several islets front the W side of Change Island affording shelter to local vessels. **Deep Cove** (49°37'N., 54°25'W.), lying between drying **Water Bears Rocks** (49°36'N., 54°26'W.) and **Wood Island** (49°37'N., 54°26'W.), has depths of 5.5 to 11m, sand. **Smoker Island** (49°37'N., 54°27'W.) is marked by a light shown from its N end, and a buoy off a rock at its S end.

Range lights, in line bearing 130.5° ahead or 310°24' astern, are situated about 0.3 mile N of South End. These lights lead S of Smoker Island and the Water Bears, and N of Farewell Reef.

**North End** (49°41'N., 54°26'W.), the NW end of an island lying close NW of Change Island, is separated from that island by North Tickle, a passage. Numerous shoals and drying rocks extend 1.7 miles NE of North End, with the outer extremity terminating at Sleepy Ledge, which has a least depth of 6.1m

**7.20** Change Island Tickle (49°40'N., 54°25'W.), a constricted channel, separates the main and N part of the island. The passage, with a least depth of 3m, affords safe anchorage for small vessels with local knowledge. The E entrance is available in any weather, but is difficult to identify. A bridge, with a vertical clearance of 3m, spans the middle part of the passage. A light is shown from a green and white banded tower situated on **Tickle Point** (49°40'N., 54°25'W.). North End Island is encircled on all sides by islets and rocky foul ground which extends to both sides of Change Island Tickle.

**Ruth Island** (49°41'N., 54°23'W.), marked at its W end by a light shown from a tower, lies in the middle of the E entrance of Change Island Tickle and close S of Tobacco Island, from which it is separated by a channel about 90m wide. An islet,

encircled by foul ground, lies close S of Ruth Island and a shoal on which heavy seas break lies close E of the island. Rocks, awash, and 1.8m shoals lie almost 0.5 mile WSW of Ruth Island and on either side of the fairway through Change Island Tickle. Buoys mark these dangers.

**Depths—Limitations.**—A pier at the NE end of Change Island Tickle has a depth of 7.9m alongside.

**Aspect.**—Lights shown from skeleton towers displaying white daymarks with red diamonds in the center, are situated on the N side of Change Island Tickle. These lights, in line bearing 252°45', lead through the E approach and entrance of Change Island Tickle.

**Directions.**—To proceed from Hamilton Sound to Notre Dame Bay by the channels S and W of the Change Islands, pass between Gander Island and Goose Island and make for Steering Island bearing 290°, which leads NE of Gulnare Rocks Buoy; along this part of the recommended track there is a least depth of 10.4m.

From close E of Steering Island steer about 007° to pass 0.5 mile E of Farewell Gull Island, keeping the SW extremity of the Dog Islands bearing less than 168° and open W of their NW extremity to pass W of Dog Reef. As the ranges on the S end of Change Island come in line bearing 130°24' astern, alter course to 310° to pass midway between Buoy N3 and Buoy N4; in the fairway of the channel there is a least depth of 13.1m. When midway between the buoys, alter course gradually N and steer N, giving Smoker Island a berth of at least 0.75 mile, until South End of Change Island can be brought into line with the N extremity of Smoker Island, astern, bearing 147°; these marks lead, in a least depth of 15.2m, SW of Pipe Rock. Alter course to 335° to pass NE of Five Fathom Lighted Buoy and SW of Shag Rock. Range Lights on the SE side of Bacalhoa Island, in line bearing 301°21', will lead between the shoal areas NE of Duck Island and Moorham Reef, farther NE. When the NE extremity of Bacalao Island bears 334°, alter course to 002° between Moorham Reef, on the E, and Kiar Rocks, on the W, passing 0.75 mile W of Sly Rock and 0.75 mile E of Bacalhao Rock into the NE part of Notre Dame Bay; along this part of the track there is a least depth of 24m SW of Sly Rock.

## **Notre Dame Bay**

**7.21 Notre Dame Bay** (49°40'N., 55°20'W.) is entered between the N entrance point of **Farewell Harbor** (49°34'N., 54°28'W.) and the South Bill of **Cape St. John** (49°58'N., 55°28'W.). This large bay contains many islands; its shores are deeply indented by numerous inlets, many of which require local knowledge to navigate.

**Ice.**—In June, the mean limit of pack ice off the NE coast of Newfoundland is in about 50°N, and there is no other pack ice except in the region of the Strait of Belle Isle. Within Notre Dame Bay, the ice is often kept offshore by the tidal currents out of the deep arms.

Change Island Tickle and the sea from the N end of Change Island to **Herring Head** (49°40'N., 54°32'W.) and from Tobacco Island to Brimstone Head fill with N ice and freeze; the ice usually breaks up between April 20 and May 10, but an E sea breaks it up earlier. In May and June, when the ice is compact from Funk Island to Cape Fogo, partly owing to the E

tidal current setting out of Dildo Run and the stream from the Gander River, Change Island, and Stag Harbor Tickles are often sufficiently clear to allow vessels to pass through them into Notre Dame Bay.

**Dildo Run** (49°32'N., 54°40'W.), a very constricted and intricate channel, is entered about 2 miles W of **Beaver Head** (49°32'N., 54°33'W.), a steep bluff. Little Beaver Cove, 1.5 miles NE of Beaver Head, has the settlement of **Port Albert** (49°33'N., 54°32'W.) at its head. There is a public wharf, with a least depth of 4m at its outer end, situated at Port Albert. **Beaver Cove** (49°31'N., 54°34'W.) is divided into two arms by an islet. The NE arm is foul, but the SW arm affords good anchorage, in depths of 5.5 to 11m, mud.

Dildo Run leads through the archipelago of islands SE of **New World Island** (49°35'N., 54°38'W.) and into the Bay of Exploits between Cranpot Island and **Farmer Island** (49°28'N., 54°50'W.). This passage is frequently used by vessels to avoid the ice on the outer coast during the spring. There is a least depth of 3.7m in the channel, but the turns are so sharp that it is available only for small vessels. Local fishermen serve as pilots. A bridge, with a vertical clearance of 12.6m, and power lines, with a clearance of 17.1m, span a portion of the channel.

Anchorage can be taken, in a depth of 14.6m, W of Currans Green Field Island (49°34'N., 54°34'W.), which is small, low, and grassy, and lies close SW of the entrance to **Ninepin Arm** (49°35'N., 54°34'W.).

**Caution.**—Currents in excess of 5.5 knots have been reported in the channel in the vicinity of the bridge.

**7.22** Cobbs Arm (49°37'N., 54°34'W.), indenting the coast of New World Island, affords indifferent summer anchorage, in a depth of 23.8m, off the narrow entrance of a shoal continuation of the arm. A swell sets into the arm after gales. Local knowledge is necessary. Several islets and rocks above and below-water, including **Dram Island** (49°35'N., 54°31'W.), marked by a lighted tower, lie S of Cobbs Arm entrance.

**Jack's Island** (49°38'N., 54°31'W.), the high conspicuous NE peak of which is separated from New World Island by three channels, leads into Cobbs Arm. The water area for about 4 miles N and NNE of Cobbs Arm is encumbered with islets, rocks, and reefs as far as Herring Head, the high, steep-to NE end of New World Island. The Herring Islands, small and steep-to, extend 0.75 mile NE of the head. **Kiar Rocks** (49°41'N., 54°31'W.), awash, and Blowhard Rock, with a depth of 2.1m lying 0.2 mile W of Kiar Rocks, are all dangers in approaching Herring Head, on which the seas break.

**7.23 Bacalhao Island** (49°42'N., 54°33'W.), high and barren, lies with its SW extremity about 1.8 miles NW of Herring Head. A light is shown from a circular tower with red and white spiral bands situated at the SW end. A set of range lights, in line bearing 301°21', are situated close NE of this light. Above and below-water rocks lie as far as 2 miles NE of the island.

**Herring Neck** (49°39'N., 54°36'W.), at the SW end of Herring Head, is crossed by a small boat channel. A bridge crosses this channel.



Courtesy of Newfoundland Interactiv **Bacalhao Island Light** 

Toogood Arm, located 2.75 miles SSW, is entered between Ship Island and Herring Neck. Ship Island is marked by a light at its E end. The arm is encumbered with islets and rocks. On the E shore of Toogood Arm is a public wharf having an along-side depth of 2.5m.

**Goshens Arm** (49°38'N., 54°35'W.) is entered between Herring Neck and **Caplin Cove Head** (49°39'N., 54°36'W.). Ship Island Light is shown from a white, square tower on the head.

**Anchorage.**—Anchorage for small vessels can be taken in Ship Cove, close SW of Caplin Cove Head, or in Starve Cove, 0.5 mile SW of the same head. Additional anchorage is available, in 18.3 to 23.8m, mud, above the entrance to **Burnt Arm** (49°37'N., 54°38'W.).

**7.24** The **Twillingate Islands** (49°37'N., 54°44'W.) is comprised of a group of two islands and several smaller ones separated from the NW side of New World Island by Main Tickle. South Twillingate Island rises to Bluff Head on its W side, but the hills forming the N part of the island fall steeply to the E coast, and a low flat containing several lakes extends to the W coast. North Twillingate Island is lower and is separated from the NW part of South Twillingate Island by Shoal Tickle, a drying flat crossed by a canal dredged to 1.6m. A bridge, with a vertical clearance of 3m, spans the canal.

Main Tickle (49°40'N., 54°40'W.) is frequented by fishing vessels to avoid the heavy sea which runs outside with a strong wind. The passage extends S for 2.75 miles from its N entrance, which is 1 mile wide and decreases to 0.75 mile at its S entrance. Main Tickle Island lies in the N entrance with a clear passage on either side. An overhead power cable, with a vertical clearance of 44.8m, spans Main Tickle.

**Indian Cove** (49°36'N., 54°41'W.), located close SE of the SE entrance point of Main Tickle, is marked by two conical hills rising on a promontory forming the SE side of the cove. A causeway and bridge span the tickle close N Indian Cove. The vertical clearance under the bridge is 4.4m.

**Anchorage.**—Anchorage can be taken, in depths of 14.6 to 21.9m in a bight on the E side of the tickle and about 1.8 miles S of **Big Head** (49°38'N., 54°41'W.), the NW entrance point. Anchorage in Indian Cove can be taken, in 34.7m, at the entrance, decreasing to 5.5m at a distance of 0.5 mile within the entrance. There is additional anchorage in Byrne Cove, close S of Indian Cove, in depths of 14.6 to 18.3m, in the cove entrance. Local knowledge is necessary.

**Black Island** (49°35'N., 54°42'W.) lies with its NE end about 0.5 mile SSW of the SW entrance of Main Tickle. A high, bare hill at the NW extremity of the island falls away to a low isthmus at the head of a fishing harbor on the NW side of the island.

**Duck Island** (49°36'N., 54°43'W.), marked by a light shown from a red and white banded circular tower, is connected to Black Island by rocks and shoals.

**7.25** Twillingate Harbor (49°40'N., 54°46'W.) (World Port Index No. 1580) is situated on the E side of the entrance to Notre Dame Bay. It is entered between the W extremity of Burnt Island and **Cuckold Point** (49°41'N., 54°47'W.), on North Twillingate Island. Rocky shoals and several banks, with depths of 20.1 to 36.6m on which the sea brakes in bad weather, lie N of the Twillingates.

**Ice.**—The navigation season is from May 1 to December 31. Twillingate Harbor freezes over around January 22, and the ice, which attains a thickness of 0.6 to 0.9m, clears around May 6. It is, however, open at intervals between these dates.

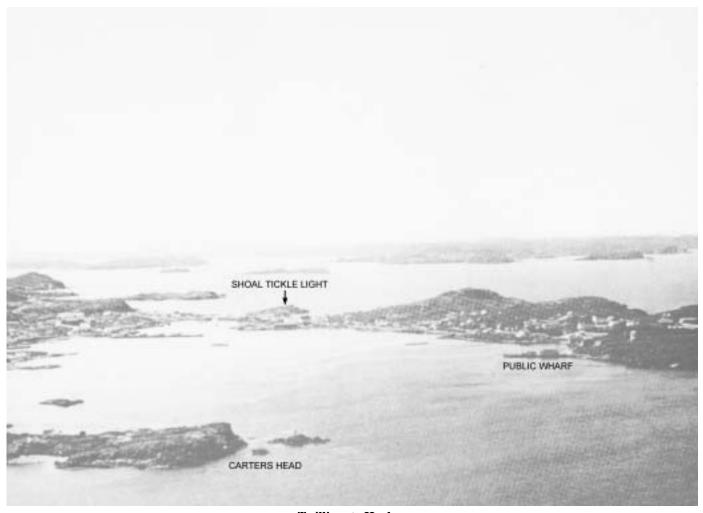
**Depths—Limitations.**—There are least depths of 18.3m in the harbor channel and approaches. Shoals fringe the head of the harbor and extend at least 0.75 mile offshore. There is a controlling depth of 9.1m in the harbor channel.

Several wharfs and piers are situated in the harbor. The wharf on the W side of the harbor, 1.4 miles S of Cuckold Point, is maintained by the Search and Rescue Branch of the Canadian Coast Guard. The wharf is 91m long and berthing is restricted to the S side. On the N side of the wharf, depths alongside the outer 27m decrease from 10.4 to 6.4m.

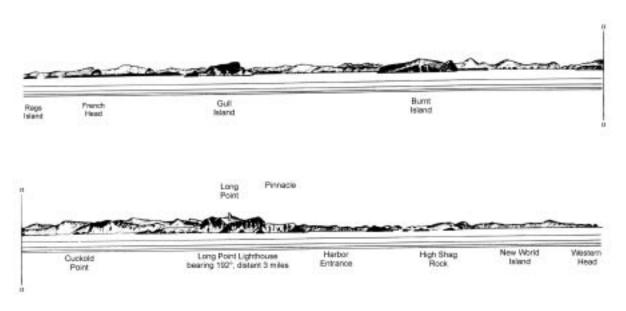
A wharf at Jenkins Cove has a length of 61m and a reported depth of 4.6m at HW at its outer end. There is a public pier, with a depth of 3.4m alongside, situated in Jenkins Cove, about 0.5 mile NE of the principal pier.

**Aspect.**—Twillingate Harbor Light is shown 2.75 miles SSE of Long Point, at the head of a jetty on the W side of the harbor. A yellow church, with a grey roof and square yellow tower, stands 0.15 mile SW of the light. A breakwater light is shown at the outer end of the W pier extending S from the breakwater.

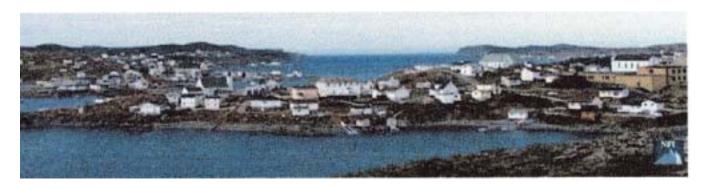
**Pilotage.**—Pilotage is not compulsory. There is no regular pilot for Twillingate, however, the pilot from Botwood/Lewisporte will take the assignment as a non compulsory assignment. Arrangements should be made with the pilot for a boarding position. During winter, this position is off St. John's, in approximate position 47°34'N, 52°38'W. Arrangements should be made through the Canadian Atlantic Pilot Authority (APA) Central Dispatch Office in Halifax, Nova Scotia. However, pilots may still be ordered through any Canadian Coast Guard radio station with a clear request to "Please forward to Atlantic Pilotage Authority Dispatch." For



**Twillingate Harbor** 



View, in two parts, of approach to Twillingate Harbor from N



Courtesy of Newfoundland Interactive

Twillingate Harbor

more detailed information on pilotage for Twillingate see Pub. 140, Sailing Directions (Planning Guide), North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

A Canadian Coast Guard cutter is stationed here during the navigation season (May 15 to December 31). A continuous listening watch is maintained on 2182 kHz, 156.8 MHz, and VHF channel 9.

**Anchorage.**—Anchorage is not good in Twillingate Harbor, as it is open to NE winds that send in a heavy sea. The holding ground is indifferent. The best berth is off the W shore, NE of the wharf light, on the W side of the harbor, in a depth of 11m.

**Directions.**—Vessels approaching Twillingate Harbor from the E should not bring the NW extremity of Burnt Island to bear more than 238°, until French Head is in line with the NE extremity of the island bearing 128°, when course can be altered S for the entrance.

**7.26** West side of the Twillingate Islands.—Lower Head (49°41'N., 54°49'W.) is a salient feature SW of Long Point. **Back Harbor** (49°40'N., 54°48'W.), entered S of Back Harbor Head, affords anchorage, in depths of 8.2 to 12.8m, sheltered from all but W winds which send in a heavy sea. Local knowledge is required.

**Tickle Point** (49°39'N., 54°46'W.), the SW entrance point of Shoal Tickle, lies 1.5 miles SE of Back Harbor Head. Shoal Tickle Light is shown from a white, square tower on the point.

**Bluff Head** (49°37'N., 54°46'W.) is a broad, high promontory located 1.5 miles SSE of Tickle Point. Bluff Head Cove, entered close N of the head, affords anchorage to small vessels, in depths of 7.3 to 11m, E of an islet lying in the cove entrance.

**Friday Bay** (49°35'N., 54°44'W.) is entered between Bluff Head and **North Trump Island** (49°35'N., 54°47'W.). Islets and rocks above and below-water lie between the head and island. **Gillott Cove** (49°37'N., 54°46'W.), close S of Bluff Head, has a public wharf with depths of 1.8 to 3.7m alongside. The **Trump Islands** (49°34'N., 54°45'W.), a group consisting of two large islets and several small islets and rocks, form the W side of Friday Bay.

**Fools Harbor** (49°35'N., 54°44'W.), sheltered at the E end of South Trump Island by interconnected islets, affords anchorage to small vessels, in a depth of 14.6m, with local knowledge.

7.27 North side of New World Island.—Squid Cove (49°34'N., 54°43'W.), sheltered by Crow Head Island, affords good anchorage to small vessels, in depths of 11 to 21.9m. The best entrance, clear of dangers, is between **Sugarloaf Point** (49°34'N., 54°42'W.) and the islets NE of Crow Head Island.

**Tilt Cove** (49°33'N., 54°43'W.) is entered between a point about 0.4 mile SW of Crow Head Island, and Tilt Cove Island, about 0.2 mile W. The passage narrows between an entrance width of 274m to 64m in the cove.

**Anchorage.**—Anchorage can be taken, in a depth of 11m, within the cove.

**Virgin Arm** (49°32'N., 54°46'W.) is entered about 0.8 mile SW of Tilt Cove Island. An islet lies in the entrance of the arm and above and below-water rocks lie close to the shore within the arm. By hugging the E shore upon entering until the first rock is passed, a vessel can ancho, in a depth of 31.1m, in the widest part of the arm. A small vessel can proceed to the head of the inlet, keeping close to the W shore until another rock is passed, then anchor in the middle, in depths of 12.8 to 20.1m. There is a public wharf nearby.

**7.28** Chanceport Harbor (49°33'N., 54°49'W.) is entered between a point about 1.5 miles W of the W entrance point of Virgin Arm, and Chance Harbor Island, 0.25 mile to the N. Chanceport Harbor affords anchorage to small vessels, in depths of 18.3 to 34.7m, open to E winds.

**Tizzard's Harbor** (49°35′N., 54°48′W.) entered 1.75 miles N of Chanceport Harbor and close S of Tizzard's Harbor Head. An islet in the harbor is connected to the N shore by a reef. There is a public wharf at the village, 32m long with a least depth of 4.9m at the face. Anchorage in the harbor is available, in a depth of 11m.

Toad Asses are three rocks extending NE from an isolated wooded headland located N of the NW side of Tizzard's Harbor Head, with which it is connected by a low neck of land.

Berry Island lies off the W side of the same isolated headland; it is connected with it by a bank which dries. Cuckold Rocks, 3m and 4.3m high, are the outermost of the rocks ex-tending nearly 0.4 mile N of Berry Island.

Wild Bight (49°35'N., 54°50'W.), entered close E of Wild Bight Head, is clear of dangers and affords anchorage, in depths of 20.1 to 27.4m, near its head, but the bight is open to N winds which send in a heavy sea.

**7.29 Moreton's Harbor** (49°35′N., 54°51′W.) (World Port Index No. 1570) is approached between Wild Bight Head and Moreton's Harbor Head, about 0.8 mile SW. The entrance to the harbor is between **Little Harbor Head** (49°35′N., 54°51′W.) and Neal Island, lying 0.2 mile W of the head. A light is shown from a circular tower with red and white bands on Little Harbor Head. There is a public pier at the settlement near the head of the harbor, which has a depth of 4.6m alongside. A light is shown from the head of the pier. Anchorage can be taken in the harbor, in depths of 9.1 to 12.8m.

**Directions.**—Vessels approaching Moreton's Harbor from the E should steer with the N of a number of fishing stages on the W side of the harbor, about 0.45 mile S of Neal Islet, bearing about 200° and well open of Little Harbor Head; this clears Mad Knoll Rock, which lies about 0.5 mile SSW of the W extremity of Wild Bight Head and has a depth of 2.1m. Vessels approaching the harbor from the W should keep Cuckold Rocks bearing more than 061° and well open N of Wild Bight Head, until a church at the head of the harbor is well open E of Moreton's Harbor Head; this clears Moreton's Harbor Rocks which extend 230m N from the headland.

When clear of these rocks, steer in mid-channel through the entrance, taking care to avoid rocks which border the W side S of Neal Islet and extend up to 0.1 mile offshore 0.2 mile within. When clear of them, course can be altered SE, keeping in mid-channel to anchor.

## The Bay of Exploits

**7.30 Western Head** (49°36'N., 54°54'W.), the NW extremity of New World Island and the E entrance point of the Bay of Exploits, rises steeply to a bare mound. **North Head** (49°33'N., 55°09'W.), broad and high, is the W entrance point to the bay.

**Ice.**—Ice generally forms in the bay early in January, and sometimes a little earlier in Peter Arm and its vicinity. The first vessels arrive from sea about June 1, and the last leave early in December. Fog is frequent in the bay, but seldom lasts more than a few hours.

**Tides—Currents.—**Tidal currents set in and out of the deep channels of the bay with a velocity of about 2 knots at springs.

**Depths—Limitations.**—The Bay of Exploits is divided by numerous islands into three main arms which lead to various bays and arms at its head. Depths in the bay are considerable, and except in its E part, there are only a few obstructions beyond those fringing the shores. The W of the three arms into the bay is navigated without difficulty as far as Peter Arm, about 26 miles from the entrance.

**7.31 Eastern Arm.**—The E arm of the Bay of Exploits is entered between Western Head and **Black Island** (49°33'N., 54°58'W.). It extends about 10 miles S to **Comfort Head** (49°25'N., 54°51'W.). Several islands, with passages leading between them, form the sides of Eastern Arm. The main channel leading S in the arm is broad, deep, and free of dangers. At Comfort Head, the E arm divides into two arms.

Big Gull Island lies with its NE extremity 0.5 mile WSW of Western Head; it is covered with grass, and its W side is faced with black cliffs. Hussey Rock lies close NE of Big Gull Island. Little Gull Island lies close SW of Big Gull Island.

**Dicky Head** (49°34'N., 54°54'W.) lies about 1.8 miles S of Western Head. The village of Whale's Gulch lies close E of Dicky Head.

Bridgeport Harbor Head lies about 3 miles S of Western Head. Green Island lies close NW of the head. Killick Stone Island lies about 0.2 mile NNW of Green Island. Bridgeport Island lies about 0.1 mile E of Green Island.

Black Island presents a flat appearance and lies with its N point about 3.3 miles SW of Western Head. Storehouse Island lies about 0.1 mile off the middle of the NE side of Black Island; a white triangular beacon stands on the SW summit of the S part of the island.

Little Black Island lies off the SE side of Black Island. Black Island Tickle separates these two islands; it is narrow with numerous rocks in it. This passage is available only to small craft; local knowledge is necessary.

Dram Rock lies about 0.3 mile E of the NE extremity of Little Black Island. Sunker Rock, with a depth of 0.2m, lies about 0.2 mile NW of Dram Rock.

The Duck Islands are a group of islets lying close S of Little Black Island. Whale Back Rock lies about 0.4 mile SE of the southeasternmost Duck Island.

Between Bridgeport Point, the SW extremity of Bridgeport Harbor Head, and the NW extremity of Cottle's Island, about 1.3 miles S, the coast forms a bight which is encumbered with islets, rocks, and shoals.

Little Bridgeport Harbor is entered about 0.4 mile ENE of Bridgeport Point. It is suitable only for small craft; local knowledge is necessary.

**Bridgeport Harbor** (49°33'N., 54°52'W.) is obstructed to all but small craft by a bar about 1 mile within the entrance. There is a settlement at the N side of the harbor where a public wharf, 21m long, with alongside depths of 2.1 to 4.9m, is situated.

Anchorage can be taken, in 38.4m, close within the entrance. Small craft anchor farther in the harbor, in depths of 9.1 to 16.5m.

**Caution.**—A pipeline is laid across Bridgeport Harbor. Mariners are cautioned not to anchor in the vicinity of the pipeline.

Puzzle Harbor Head, a round wooded hill, lies 1.3 miles SE of Bridgeport Point. Cottle's Island is rocky, thickly wooded, and steep-to.

**Luke's Arm** (49°31'N., 54°50'W.), entered 0.5 mile E of Cottle's Island, affords good anchorage, but should not be approached without local knowledge.

**Cottle's Bay** (49°31'N., 54°53'W.) is entered between the SW extremity of Cottle's Island and a point about 1 mile SE. Mann Rocks, 3m high, lie in the middle of the entrance to this bay; there are several rocks in the bay E of them. The settlement of Cottle's Island is situated on New World Island, about 0.8 mile NE of Mann Rocks. At the settlement there is an L-shaped public wharf with a least depth of 3.7m alongside its outer end.

**Farmer Head** (49°29'N., 54°53'W.) is a bold rocky headland, conspicuous and steep-to.

**7.32** The **Samson Islands** (49°30'N., 54°57'W.) is comprised of two large islands and several small ones; all are densely wooded. The channel N of the islands is foul and

should be used only by small craft. **Samson Tickle** (49°30'N., 54°56'W.), 0.2 mile wide, separates the two large islands. Care must be taken to avoid Mussel Rocks, and the shallow water surrounding them, in the W part of Samson Tickle.

**Anchorage.**—Anchorage is possible in fine weather only. The current is W on the flood tide and is greatly influenced by wind.

**Sugar Loaf** (49°28'N., 54°56'W.) at the S end of the group, is a steep, cliffy, and conspicuous island rising to an ele-vation of 65m.

**Summerford Arm** (49°29'N., 54°50'W.) is entered between Farmer Head and Gleed Island. Surprise Shoals, with a least depth of 11m, lie in the entrance to the arm, about 0.5 mile SE of Farmer Head. The arm affords anchorage 0.15 mile W of **Fir Island** (49°29'N., 54°49'W.). A settlement on the N shore of the arm has a T-head pier, with a depth of 3.1m alongside. A light is shown from a white tower on the pier.

**Cranpot Island** (49°27'N., 54°50'W.) lies about 0.5 mile SE of the SW extremity of Farmers Island.

Comfort Head is the steep, wooded bluff forming the N end of a promontory separating **Loon Bay** (49°22'N., 54°49'W.) from Indian Arm. **Comfort Island** (49°25'N., 54°51'W.), which is steep, wooded, and conspicuous, lies 0.2 mile N of the head.

**Yellow Fox Island** (49°27′N., 54°55′W.), lying nearly 1 mile S of the South Samson Island, is light gray in color, and thickly covered with trees.

Squire Island, lying almost 1 mile S of Yellow Fox Island, is wooded, except at its N end, which is bare.

Knights Island, lying 0.5 mile S of Squire Island, is thickly wooded.

**7.33 Knights Island Rock** (49°25'N., 54°55'W.), lying 0.3 mile NE of the N end of Knights Island, is marked by a light shown from a square tower with red and white bands.

**Loon Bay** (49°22'N., 54°49'W.) is entered between Comfort Head and **Coal All Island** (49°24'N., 54°48'W.). The SE side of the bay is rocky and does not afford good anchorage. The depths off the W side are moderate, there are few dangers, and in general there is available anchorage anywhere suitable.

**Comfort Cove** (49°24'N., 54°51'W.), entered SE of the head, affords anchorage, in depths of 27.4 to 36.6m, in the cove, but E winds which prevail in the spring and autumn cause this anchorage to be unsafe. The SE entrance point of the cove rises steeply to a prominent wooded hill.

**Newstead Harbor** (49°24'N., 54°51'W.), suitable only for small vessels., is entered about 1 mile SW of Cranberry Island. An L-shaped public wharf, 53m long, with an alongside depth of 2.7m, is situated on the E shore of Newstead Harbor.

Cranberry Island, low and steep-to on its outer side, lies close off the SE entrance point of Comfort Cove.

**Green Island** (49°23'N., 54°47'W.) is a grassy islet, turtle-backed in shape, which lies on an extensive flat of sand and stones off the SW side of Coal All Island.

Birchy Bay is entered between the SE end of Coal All Island and a point about 1 mile SW; it is used only by small vessels. Local knowledge is necessary. The approach is encumbered by shoals extending from both sides.

**Loon Harbor** (49°17'N., 54°51'W.), at the head of the bay, affords anchorage, in a depth of 9.1m, mud, in the middle of the harbor. On the W side, close S of the entrance of the harbor, there is a wharf with a reported depth of 3.4m at the outer end.

A Coast Guard radio station (VCM) operates remotely from a position close W of Loon Harbor. **Long Point** (49°19'N., 54°51'W.), about 1 mile SE of the radio station, affords anchorage off the cove close N of the point, ina depth of 18.3m.

**7.34** Indian Arm (49°20'N., 54°56'W.) and Burnt Bay (49°18'N., 55°00'W.) are approached between Comfort Head and Knights Island. Conspicuous, high, wooded bluffs, interspersed with foul and shallow coves, form the coast SW of Comfort Head.

Duck Island, small and grassy, lies about 0.4 mile offshore, 2.1 miles SW of Comfort Head.

Camel Island, thickly wooded and cliffy, lies about 0.8 mile SSW of Knights Island; it has a humped-back summit. Two islets and several rocks lie between Knights Island and Camel Island.

Sivier Island, densely wooded with a conical summit, lies with its E extremity about 0.8 mile S of Camel Island.

Camel Island Passage, between Camel Island and Sivier Island, has four shoals and a small islet near mid-channel. The passage close SW of these shoals has a least depth of 14.9m.

Tinker Island, lying 0.7 mile W of Camel Island, is round and steep-to; it forms a good mark for vessels using Camel Island Passage.

**Birchy Island Tickle** (49°22'N., 54°59'W.) leading into Indian Arm, is very constricted, with a least depth of 3.7m. Local knowledge is necessary.

**Anchorage.**—Anchorage can be taken off the S entrance of the tickle, in a depth of 27.4m, sheltered from NW winds, which are strong in autumn. There is good anchorage, in depths of 25.6 to 27.4m, on a mud and gravel bank lying 0.5 mile WSW of the SW end of Sivier Island. The E end of Birchy Island, in line with the W end of Sivier Island bearing about 027°, leads over the bank.

Indian Arm is entered between **Chapel Head** (49°22'N., 54°54'W.) and the E end of Sivier Island. **Indian Head** (49°19'N., 54°53'W.) is located 2.5 miles SSE of Chapel Head.

**Anchorage.**—Anchorage can be taken during E winds in the bay close N of Indian Head. The S and SE shores of the arm are low and backed by wooded ridges. A promontory separates the S part of the arm from Burnt Bay.

Anchorage can be taken at the head of the arm, in depths of 12.8 to 23.8m.

Steering Island, lying about 1 mile SW of Indian Head, is steep-to and covered with grass. Duck Island lies about 2 miles WSW of Indian Head. The island lies close N of the NE extremity of the promontory separating Indian Arm from Burnt Bay. Berry Island lies between Duck Island and the coast. The S and SE shores of Indian Arm are low and backed by wooded ridges.

The settlement of **Campbellton** (49°17'N., 54°55'W.) (World Port Index No. 1550) is situated SW of a wooded islet. There is a saw mill and a pier capable of handling vessels of

100 tons. A public L-shaped wharf, reported (1997) to be in disrepair, has a depth of 3m alongside.

**7.35 Burnt Bay** (49°18'N., 55°00'W.) is approached between Sivier Island and the promontory about 2 miles S. **Mussel Bed Rocks** (49°19'N., 54°58'W.) lie off the promontory. The mainland forming the W side of the approach is low, densely wooded, and indented by several coves. Burnt Bay is entered between **St. Michael's Island** (49°17'N., 55°00'W.) and the coast almost 0.8 mile W. **Jobs Island** (49°18'N., 55°01'W.) lies in mid-channel just N of the entrance. Both sides of the bay are densely wooded. A light is shown near the W side of St. Michael's Island. **Cat Island** (49°16'N., 55°01'W.) and Seal Rock, 0.3m high and marked by a light, lying 0.8 mile E of the island, constrict the fairway leading through Burnt Bay.

**Ice.**—Burnt Bay usually freezes about the middle of January, and opens again about the end of April.

**Tides—Currents.**—The tidal currents set fairly in and out of the bay with an appreciable velocity at springs in constricted places.

**Anchorage.**—There is anchorage in the bay in the vicinity of Rice Island.

**7.36** Lewisporte (49°15′N., 55°03′W.) (World Port Index No. 1560) lies at the head of Burnt Bay. The town is situated along the W shore of the harbor. Most of the supplies for Gander Airport are shipped through this port of entry. A church spire and a water tank are conspicuous in town.

**Depths—Limitations.**—There are several harbor piers. The C.N.R. Pier has a least depth of 6.7m alongside the outer 107m on both sides. The T-shaped Imperial Oil Pier has a least depth of 8.5m alongside its outer face. The old L-shaped oil pier has a depth of 5.5m alongside its outer face. The L-shaped public pier has depths of 1.8 to 3.7m alongside.

The navigation season is from mid-May to mid-December.

**Pilotage.**—Pilotage is compulsory. The pilot boarding station from May 15 to January 1, depending on ice conditions, is in position 49 20'45"N,54 56'32"W Pilots are requested from the Atlantic Pilotage Authority 12 hours prior to arrival at the pilot boarding position. The ETA must be confirmed or corrected 4 hours prior to ETA.

From January 2 to May 14, depending on ice conditions, the pilot boarding position is off St. John's in position 47 33'42"N, 52 37'54"W Pilots are requested from the Atlantic Pilotage Authority 24 hours prior to arrival; the ETA must be confirmed or corrected 12 hours prior to ETA.

**Anchorage.**—Anchorage can be taken off the wharves, in depths of 16.5 to 20.1m, mud.

## The Bay of Exploits—Middle Entrance

**7.37 Sloop Run** (49°33'N., 55°01'W.), the middle entrance of the Bay of Exploits, is entered between **Hell Grapple Head** (49°33'N., 55°02'W.) and **Long Point** (49°33'N., 55°02'W.). Several islands, islets, and above and below-water rocks lie in the middle of the run and extend S for at least 2 miles. **Sealing Cove** (49°33'N., 54°59'W.) is clear of dangers and affords anchorage to small vessels during E winds.



**Long Point Light** 

Hamilton Island lies 0.7 mile S of Hell Grapple Head. Parsons Cove, which is suitable only for boats, is entered E of Hamilton Island.

Hare Island is the largest of a group of islands that lie in the middle of Sloop Run. Fish Island is the N island of the group, lying 0.3 mile NE of Hare Island. Tarpaulin Island, the E island of the group, lies 0.7 mile ENE of Hare Island. Gillot Island, the S island, lies 0.2 mile SSW of Hare Island. The other islands, rocks, and shoals in the vicinity can best be seen on the chart.

Matthew Lane Island lies with its NE extremity about 0.7 mile SE of Gillot Island. There is a small boat harbor on its S side protected by an islet; several rocks encumber this harbor.

The **Exploits Islands** (49°31'N., 55°04'W.), lying in the middle entrance, are two in number, separated by a channel known as **Exploits Upper and Lower Harbors** (49°32'N., 55°05'W.). The N and E sides of the islands are fronted by foul ground and several islets. The **Duck Islands** (49°30'N., 55°04'W.) are a group of wooded islets separated from the S side of the Exploits Islands by a deep, wide, channel. These islands form a bay, open SW, in which temporary anchorage can be taken, in a depth of 35m, fair holding ground.

Man of War Hill, the summit of the westernmost Exploits Islands, has a large cairn of stones on it. Surgeon Cove Point is the W extremity of the W island. The point is marked by a light shown from a circular tower marked with red and white stripes.

**Anchorage.**—Burton Cove, SE of the point, affords anchorage for small vessels during E winds.

Gull Island Bight is entered between Long Point and High Gull Island, lying close to the coast about 1 mile to the W.

Nanny Hole Head is a steep bluff forming the NW side of the easternmost Exploits Islands.

**Exploits Harbor** (49°31'N., 55°04'W.), consisting of Exploits Upper Harbor and Exploits Lower Harbor, lies in the channel between the two Exploits Islands. The two harbors are connected by a passage 6.1m wide and 0.9m deep.

Exploits Upper Harbor, located in the SE part of the channel, is entered over a rocky bar with depths of 1.8 to 2.1m. A narrow channel through the bar has a depth of 5.8m, but transit requires local knowledge. There is a J-shaped public pier in the harbor with depths of 4.9 to 5.9m alongside its outer face. The

pier is situated at Lacy Point, close N of the W entrance point to Upper Harbor.

**Anchorage.**—Temporary anchorage can be taken in the entrance to Upper Harbor, in depths of 16.5 to 29.3m.

Exploits Lower Harbor, located in the NW part of the channel, affords anchorage for small vessels, in depths of 21.9m or less, but local knowledge is required.

**Ice.**—Exploits Harbor generally freezes about January 1, and is completely blocked with ice between February 1 and April 1, but between April 1 and May 20 there are open intervals. Field ice appears between the middle and end of January, and disappears between May 1 and 20.

**Swan Island** (49°28'N., 55°02'W.), densely wooded except at its N part where the land is low, lies 1 mile SE of the Duck Islands. Swan Island Harbor, indenting the S coast of the island, affords sheltered anchorage, in depths of 27.4 to 31.1m.

Hornet Island, about 0.4 mile E of Swan Island, is 61m high and cliffy. A bank, with numerous rocks, extends 1.25 miles N of the NW end of the island.

**7.38** Long Island (49°26'N., 55°01'W.) is separated from Hornet Island by Hornet Gut, with a least depth of 7.3m in the fairway. Tidal currents set strongly through this passage, which is suitable for small vessels only. The **Spruce Islands** (49°24'N., 55°01'W.) lie 0.5 mile SSE of Long Island.

**Tides—Currents.**—The tidal currents between the Spruce Islands and **Southern Head** (49°22′N., 55°05′W.), about 2.75 miles SW, set in the direction of the channels. The W current between the Spruce Islands and Birchy Island is the flood tidal current. Occasionally tide rips are caused off Southern Head at spring tides by banks, with depths of 23.8 to 36.6m, which lie within 1.5 miles NE and 1 mile E of the head.

The **Shag Cliff Islands** (49°27'N., 54°59'W.) is a group of islands lying 1 mile SE of Hornet Island. Indian Islands is another group lying 0.5 mile S of the Shag Cliff Islands. The islands of both groups have steep cliffs on their E sides and remarkable summits.

Jock Islands, small and covered with grass, are located just over 0.5 mile E of the N extremity of the easternmost Shag Cliff Island. A sunken rock, with a depth of 0.6m, on which the sea breaks with any swell, lies close W of these islets.

Rudder Island lies about 0.4 mile SW of the Indian Islands.

**Little Burnt Bay** (49°21′N., 55°03′W.) is entered between the W entrance point of Shoal Tickle and Southern Head, about 2 miles WNW. The head of this bay and its SW part are shoal and encumbered with rocks. **Southern Head Cove** (49°21′N., 55°04′W.), located 0.5 mile S of the head, has a public pier, with a depth of 4.3m alongside. **Big Island** (49°20′N., 55°04′W.) is conspicuous.

**Anchorage.**—Anchorage can be taken, in a depth of 29.3m, about 0.4 mile SE of Big Island. This anchorage is unsafe with strong winds from between the N and NE.

**7.39 Western Arm.**—The W arm of the Bay of Exploits is entered through **Ship Run** (49°32'N., 55°08'W.), a deep channel between the NW extremity of the W Exploits Burnt Island and **Northern Head** (49°33'N., 55°09'W.). Rocky ledges lie as far as 1 mile SE of the head. With strong N winds, a heavy swell runs up the arm.

**Anchorage.**—Waldron Cove (49°31'N., 55°10'W.), entered close N of Waldron Cove Point, affords shelter to small vessels off a bight in the S side of the cove. **Little North Harbor** (49°30'N., 55°08'W.) affords anchorage to small vessels, in depths of 7.3m to 14.6m, near its head. **North Harbor Head** (49°29'N., 55°08'W.), high, steep-to, and conspicuous, is marked by a cairn of stones on its summit.

**North Harbor** (49°28'N., 55°08'W.) affords anchorage to small vessels, in depths of 18.3 to 20.1m. A heavy swell rolls into the outer part of the harbor and space is limited in the inner part.

Muddy Hole Point, about 1.3 miles S of North Harbor Head, is low and prominent. **Great Muddy Hole** (49°28'N., 55°09'W.) is well-sheltered from the heavy swell that rolls up the bay with strong N winds, but anchorage is limited to small craft.

Little Grego Island lies close to the coast, almost 0.5 mile S of the S entrance point of Great Muddy Hole. Baptist Cove, entered about 1 mile SW of Little Grego Island, is suitable for small vessels only.

**Lawrence Harbor** (49°26'N., 55°10'W.) is entered NW of Lawrence Head, an inconspicuous promontory backed by high land. The head of the harbor is divided into N and S bights; the former has a shallow head, but affords anchorage, in a depth of 34.7m, rock, covered by sand and mud. The S bight has a constricted and encumbered entrance.

**Upper Black Island** (49°24'N., 55°07'W.), very high and densely wooded, and **Hummock Island** (49°26'N., 55°05'W.) are separated by a passage with a least depth of 8.2m. A reef, with a depth of 5.9m, lies at the outer edge of a chain of islets extending about 0.5 mile SE of the S end of Hummock Island.

Tidal currents between the two islands follow the coast of Hummock Island, frequently causing eddies and tide rips over the shoals between the islands. A light is shown from an islet lying off the NW corner of Upper Black Island.

**High Grego Island** (49°24'N., 55°10'W.), rising almost vertically on its E side, is a good landmark. Anchorage can be taken, in a depth of 21.9m, sand, W of the island.

**7.40 Western Arm**—From **Southern Head** (49°22'N., 55°05'W.), the coast rises gradually to a conspicuous, cliffy, and densely-wooded bluff, which rises almost vertically to a height of 110m.

**St. John's Bay** (49°20'N., 55°06'W.) is entered between Southern Head and the N end of **Thwart Island** (49°19'N., 55°10'W.), about 3 miles W. The bay is divided into two parts by several small islands lying across its middle. **Southern Passage** (49°16'N., 55°12'W.), the S entrance of the bay, is encumbered with shoals.

Lobster Island, small and covered with grass, lies almost 1 mile E of the W entrance point of the bay; it is steep-to on its N and E sides. Sailor Island, lying about 1 mile SSW of the E entrance point of the bay and close offshore, is partly wooded.

**St. John's Harbor** (49°19'N., 55°08'W.) is an inlet within a peninsula which rises to a conspicuous, conical hill at its S end. An island lies in the entrance of the harbor. That part of the harbor lying W of the N part of the island affords anchorage, in a depth of 23.8m, mud. The S part of the harbor is suitable for small vessels with local knowledge.

James Island is the N of a group of wooded islands lying between Thwart Island and the mainland. Frying Pan Island, lying about 0.3 mile SW of James Island, is steep-to; there is a passage about 0.2 mile wide and clear of dangers between it and Thwart Island.

Stanhope Cove lies on the SE side of the bay, about 1 mile SE of James Island. An inlet at the head of the cove has a rock, 6.1m high, in its entrance.

**Thwart Island Harbor** (49°18'N., 55°07'W.) is shoal and encumbered. St. John's Bay is greatly constricted by islands, islets, and rocky shoals lying E and SE of the harbor.

**Southern Passage** (49°16′N., 55°12′W.), between the S end of Thwart Island and the mainland, has two narrow channels separated by a 3.6m reef lying in the middle of the passage. Local knowledge is necessary in the channels.

**Tides—Currents.**—Tidal currents are greatly influenced by winds. The flood current is W; the ebb E. With strong winds between NE and SE, the velocity of the W tidal current reaches 2 knots at springs, and at times it overcomes the E and continues W for many hours. With strong W winds the reverse is true.

**7.41 Western Arm—Inner part.**—The inner part of Western Arm is entered between the S end of High Grego Island and the N extremity of Thwart Island. The arm is deep, wide, and clear of dangers in the channel.

**Granfer Island** (49°22'N., 55°12'W.) is wooded and lies about 1.8 miles NW of the N point of Thwart Island.

Winter Tickle (49°23'N., 55°14'W.) is approached between Granfer Island and Mouse Island, about 0.5 mile S. The entrance is through a deep channel between Granfer Island and a point about 0.4 mile to the W. It affords good anchorage, in a depth of 20.1m, about 0.3 mile NW of the island. The coast for 2 miles S of Winter Tickle is fronted by islets and rocks lying as far as 0.75 mile offshore.

**Wild Bight** (49°20'N., 55°11'W.) opens to the SE 1.3 miles SW of the N point of Thwart Island. It affords anchorage, in 16.5 to 20.1m, about 0.5 mile from its head. It affords no shelter during strong winds from between the NW and N.

**Cabbage Harbor** (49°20'N., 55°12'W.) is separated from Wild Bight by a long, narrow promontory. A light is shown from a tower at the W entrance point of the harbor. Cabbage Harbor affords anchorage to small vessels only.

Govers Harbor is entered almost 1.5 miles W of Cabbage Harbor Head.

**Indian Cove Island** (49°18'N., 55°14'W.), wooded, lies close off the W shore, about 1.7 miles S of the E entrance point of Govers Harbor.

Woody Island lies close offshore, almost 2 miles S of Indian Cove Island.

**7.42 Grassy Island** (49°16'N., 55°14'W.), marked by a light shown from a tower with a white daymark, is the outermost danger on the W side of the arm at its junction with Southern Passage. The arm turns SW to **Phillips Head** (49°14'N., 55°18'W.), a high, rocky projection. Opposite, and about 1 mile S of the head, is **Lower Sandy Point** (49°13'N., 55°17'W.), marked by a light shown from a square tower.

Gillet Island lies close off the E side of the arm on the S side of the entrance to Southern Passage. Wiseman Head, steep-to, lies just over 1 mile SW of Gillet Island.

**Kite Cove** (49°12'N., 55°16'W.) lies on the NE side of a promontory of which Lower Sandy Point is the outer extremity. There is a public pier at the head of the cove which has a depth of 2.7m at the outer end. Depths of 10.1m and 7.8m lie 0.7 mile NE and 1.25 miles ENE, respectively, of Lower Sandy Point.

#### **Botwood Harbor**

**7.43 Botwood Harbor** (49°09'N., 55°20'W.) (World Port Index No. 1530) is located on the NW side of Peter's Arm in the Bay of Expoits on the N coast of Newfoundland. It is entered between Lower Sandy Point and Philips Head. The town of Botwood is about 4 miles SSW of Lower Sandy Point. Botwood is a public harbor administered by the Ministry of Transport and consequently has berths for general use in addition to those utilised for designated purposes. It is a shipping port for pulp and paper products. Fuel oil, soda ash, sulphur, and general cargo are imported.

**Ice.**—Although ice may be a problem from late January to late April, Botwood Harbor is now considered to be a year-round port. Coast Guard icebreakers are available to assist vessels in and out of the harbor during the winter season.

**Tides—Currents.**—The maximum tidal range is 1.7m.

**Depths—Limitations.**—There are depths of 23.8 to 27.4m in Peters Arm, just outside the harbor proper which is entered just S of Mill Point, from which a light is shown.

A wharf situated 0.25 mile SW of Mill Point is 123m long, in disrepair, and barricaded.

The Abitibi-Price Wharf, situated 0.6 miles SW of Mill Point, is 142m long with depths of 8.2 to 9.4m alongside. Mooring dolphins connected to the wharf by catwalks permit vessels up to 152m in length to secure alongside. The wharf is used exclusively for shipping newsprint and discharging caustic soda. Close N and S of the above-mentioned wharf are two wharves that are no longer in use. The wharf to the N is in ruins; the wharf to the S is in disrepair.

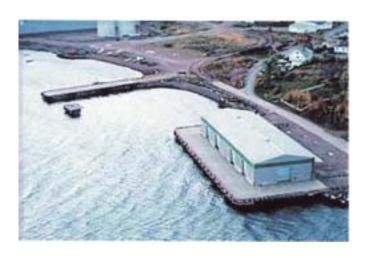
A pier, 52m long, with a depth of 7m at the outer end, lies close N of the ore-loading wharf. There is an oil pipeline on the wharf which is used for discharging oil fuels to bulk storage tanks. Another wharf, 82m long, with a least depth of 8.8m alongside, is situated close NE of the above-mentioned pier.

The Irving Oil Company Pier, situated about 0.3 mile SW of the Abitibi-Price Wharf, is used by tankers discharging to oil storage tanks that are situated W of the pier. There is a least depth of 8.2m in the berth at the pier.

An L-shaped wharf, in ruins, stands on the E side of Killick Point, about 0.5 mile NNW of Mill Point. Another L-shaped wharf, with a depth of 4.6m alongside both sides of its outer 95m, stands 0.2 mile S of Killick Point. Another ruined wharf stands close S of the latter wharf.

**Aspect.**—Two prominent spires on churches, 275m apart, are conspicuous W and NW of Mill Point.

**Pilotage.**—Pilotage is compulsory. The pilot boarding position from May 15 to January 1, depending on ice conditions, is in position 49 19'44"N,55 12'49"W Pilots are requested from the Atlantic Pilotage Authority 12 hours prior to arrival; the ETA must be confirmed or corrected 4 hours prior to ETA.



Courtesy of Transport Canada **Botwood Harbor** 

From January 2 to May 14, depending on ice conditions, the pilot boarding position is off St. John's in position 47 33'42"N, 52 37'54"W Pilots are requested from the Atlantic Pilotage Authority 24 hours prior to arrival; the ETA must be confirmed or corrected 12 hours prior to ETA.

A vessel that is to depart or make a move within the compulsory pilotage area of the Bay of Exploits must report 4 hours prior to ETD. Local time should be used; if GMT is used it must be expressly stated. The maximum allowable draft for port entry is 9.8m. No tugs are available.

**Anchorage.**—Anchorage can be taken about 0.3 mile off the wharfs and piers, in depths of 18.3 to 36.6m.

**7.44** Little Peter Point (49°08'N., 55°20'W.) is the S entrance point of Peters Arm (49°08'N., 55°20'W.). The channel S of Peters Arm is filled with mud and sandbanks, and is used only by small craft.

**Wigwam Point** (49°06'N., 55°18'W.) is conspicuous. **Norris Arm** (49°06'N., 55°16'W.), entered 1.5 miles E of Wigwam Point, is shallow. The **River of Exploits** (49°05'N., 55°19'W.) flows into the arm close S of Wigwam Point. The river is navigable at HW for vessels with a draft not exceeding 1.8m as far as the rapids.

### Notre Dame Bay—Fortune Harbor to Badger Bay

**7.45** The coast between **Northern Head** (49°33'N., 55°09'W.) and Indian Cove Point is indented by several coves fronted by islets and rocky shoals on some of which the sea breaks in heavy weather. The large inlets indenting this part of Notre Dame Bay are exposed to the N, and a prevailing NE sea and swell sets in. The currents in the large arms set with the channel.

**Indian Cove Point** (49°12'N., 55°13'W.) lies 2.5 miles W of Northern Head.

Gull Island is a bare, rugged rock lying about 0.2 mile N of the above-water rocks which extend off Indian Cove Point; it is steep-to on its S side.

Bed Rock, with a depth of 2.7m, lies about 0.2 mile ENE of Gull Island. In bad weather the sea breaks on this rock.

**Webber Bight** (49°32'N., 55°13'W.), entered between Indian Cove Point and **Snuffy Point** (49°32'N., 55°14'W.), is open to NW and N winds, but is free of dangers.

**Anchorage.**—Anchorage can be taken, in depths of 18.3 to 29.3m, with offshore winds, but the holding ground is not good.

**7.46** Fortune Harbor (49°32'N., 55°14'W.) (World Port Index No. 1525) is entered between Snuffy Point and Bellens Point (49°32'N., 55°14'W.), the latter marked by a light shown from a square tower. The harbor divides into three arms about 1 mile within the entrance. Southeast Arm is the principal passage. Northwest Arm is indented by Southwest Arm. Both arms have narrow channels with abrupt turns and should only be entered with local knowledge.

**Winds—Weather.**—The harbor entrance is open to N winds and the approaches are subject to frequently shifting winds. With NW winds, the squalls are heavy.

**Ice.**—Fortune Harbor freezes during December; the ice breaks up between May 1 and 15.

Southeast Arm is approached W of **Sweeny Island** (49°31'N., 55°14'W.) through a channel 0.1 mile wide in a depth of 12.8m. The island lies 0.3 mile SW of Snuffy Po Button Island lies 0.1 mile S of Sweeny Island, and the channel NE of Button Island is only 70m wide.

Southeast Arm is entered at **Davis Point** (49°31'N., 55°13'W.). Sims Point lies almost 0.5 mile W of Davis Point. On the W shore of the Southeast Arm, about 1 mile SE of Sims Point, there is a T-shaped wharf with a reported depth of about 3.7m at HW.

**Anchorage.**—Anchorage in Southeast Arm can be taken, in depths of 18.3 to 27.4m, with the white church standing atop rising ground on the E shore, bearing 092°. Vessels may anchor farther up the arm.

**Directions.**—Vessels approaching Fortune Harbor from the W, and having cleared Western Head Rock, should alter course S for the entrance channel when the passage E of Sweeney Island bears 183°, and is open E of Bellens Point. Stay in the middle of the entrance channel until clear of Jim Day Island, then steer with the summit of Macarthy Island, which lies 135m SE of Sweeney Island, bearing about 339° and showing over the W end of Jim Daly Island, astern, which leads to the anchorage.

**7.47 Western Head** (49°32'N., 55°14'W.), a steep bluff with a rocky pinnacle at its extremity, is steep-to with the land within rising to a long, barren ridge with a sharp summit 0.4 mile SW of the head. Western Head Rock, with a depth of 3.7m, lies on a bank with depths of less than 18.3m. The sea breaks heavily during gales on this bank, which is located 0.2 mile N of the head.

**Bagg Head** (49°33'N., 55°17'W.) is the NW extremity of an island lying 1.75 miles W of Western Head. Woody Island, 57m high, lies about 0.4 mile WSW of Bagg Head.

**Fleury Bight** (49°32'N., 55°18'W.), entered 1 mile SW of Bagg Head, is clear of dangers in the channel and is deep. Eastern Head, the E entrance point of Fleury Bight, rises steeply to

an elevation of 58m. A high hill rises vertically near a village at the head of the bight.

**Anchorage.**—Anchorage can be taken, in depths of 25.6 to 29.3m, in the bight, but with winds between the NW and N, a heavy sea rolls in and the anchorage becomes untenable as the holding ground is poor. Gull Island, 18m high, lies nearly 0.1 mile offshore, about 0.4 mile W of Eastern Head.

**New Bay Head** (49°32'N., 55°20'W.), lying about 0.8 mile W of Gull Island, rises in steep cliffs to an elevation of 82m. New Bay Head Rocks, 19m high, lie close N of the head land.

**New Bay** (49°30'N., 55°20'W.) is entered between New Bay Head and North West Rocks (49°30'N., 55°22'W.), which lie close off a point about 2.5 miles SSW of New Bay Head. The bay is deep, extends about 14 miles S, and is divided into several arms with rocky shores backed by densely wooded terrain.

**7.48** Outer part of New Bay.—Silver Buckle Island (49°31'N., 55°20'W.), lying 1 mile S of New Bay Head, derives its name from a mass of quartz at the NW end of the island. **Brandies Rocks** (49°31'N., 55°21'W.), above-water, lie in the bay entrance. Josiah Spencer Cove and Roswell Cove, entered 1 mile SE of Silver Buckle Island, are separated by a headland.

**Anchorage.**—Anchorage can be taken in both coves during offshore winds, in depths of 21.9m or less.

Yellow Fox Island, 18m high, is connected to the coast by a causeway, about 0.5 mile SE of Roswell Cove.

Cuttle Island, 43m high, lies about 0.4 mile SW of Yellow Fox Island.

**Moore's Cove** (49°30'N., 55°18'W.) has an L-shaped public wharf just within the E entrance point. There is a depth of 5.2m alongside, but with winds between the SW and NW, the wharf is difficult to lie alongside.

**Cottrells Cove** (49°29'N., 55°17'W.), entered about 0.4 mile E of Cuttle Island and open to the NW, is not recommended as an anchorage. A light is shown from a white tower on the W side of a peninsula SE of Cuttle Island. There is a public pier at the E side of the cove with a depth of 3.7m alongside. A light is shown from the head of the pier.

**Southeast Arm** (49°28'N., 55°17'W.) is entered close N of Southeast Arm Point. There is a public pier on the E side of the arm that has a depth of 2.7m alongside. The E part of Southeast Arm affords anchorage, in a depth of about 27m, mud; although space is limited, this is one of the best anchorages in New Bay.

**7.49** Osmonton Arm (49°39'N., 55°21'W.) is entered between North West Rocks and **Besom Island** (49°29'N., 55°20'W.). Besom Cove, entered about 0.5 mile SE of the island, affords anchorage, in depths of 18.3 to 29.3m. **Little Northwest Arm** (49°28'N., 55°20'W.) affords indifferent anchorage, in a depth of 45.7m near its head. Osmonton Arm is steep-to along its NW side, but the SE side is fronted by numerous islets, rocks, and reefs.

**Long Island** (49°28'N., 55°22'W.) and drying rocky patches lying NE, lie in the middle of the fairway of the arms and should be passed off their NW side.

Burnt Island, about 2.8 miles SW of Besom Island, is fronted by numerous islets and rocks. The island rises to 23m.

Tinker Island, small, rocky, and 16m high, lies about 0.2 mile off the NW shore, about 0.6 mile SSE of North West Rocks.

**Budgell Harbor** (49°29'N., 55°24'W.) is entered on the NW side of the arm, about 1 mile WSW of Long Island.

**Anchorage.**—Anchorage can be taken, in a depth of 27.4m, good holding ground, in the harbor. Gull Rock, a large boulder, 0.6m high, lies nearly 0.4 mile W of Burnt Island.

West Hare Island, 24m high, lies about 1 mile SW of Burnt Island. The SW side of the arm from abreast West Hare Island is clear of dangers and rises in precipitous cliffs. Southwest of West Hare Island the coast is indented by several coves, with off-lying islets and shoals. Mussel Bed Island, 10m high, lies close to the NW shore, about 0.4 mile NW of West Hare Island; it is small, densely wooded, and steep-to on its SE side.

**Mill Cove** (49°26′N., 55°27′W.), entered at the head of the arm, has an islet lying in its entrance, but affords good anchorage for small vessels within the islet.

**South Arm** (49°24'N., 55°17'W.) is entered between **Bills Point** (49°27'N., 55°17'W.) and the N extremity of **Strong Island** (49°26'N., 55°18'W.), which is densely wooded and conspicuous from the N, as it appears as a bluff with a cliffy face. The E side of the arm is indented by several coves; the W side is mostly bold. Off the coves on the E side, **Ritters Arm** (49°23'N., 55°16'W.) is the one affording anchorage in its outer part, in a depth of 23.8m. Local knowledge is required.

**Paradise Cove** (49°22'N., 55°19'W.), on the W side of the arm, affords sheltered anchorage, in a depth of 27.4m. There is a shallow pier at a settlement. **Pleasant Point** (49°21'N., 55°20'W.) affords anchorage close SW of an island lying 275m SW of the point. There are depths of 27.4m at the anchorage. South Arm affords anchorage in other parts, but the area is subject to violent squalls during W winds.

**Strong Island Sound** (49°24′N., 55°20′W.) is entered S of Strong Island, with the W side of the channel in the sound being the preferred channel. A promontory extending N from the head of the sound divides it into two arms.

**Anchorage.**—Anchorage can be taken on either side of the promontor, in depths of 29.3 to 34.7m.

**7.50 Southwest Arm** (49°23'N., 55°23'W.) is entered between **Little Northwest Arm Head** (49°28'N., 55°20'W.) and the N extremity of Strong Island, 2 miles SSE. About 5 miles within the entrance it is divided into Southwest Arm and West Arm by a promontory, the N extremity of which is **Brimstone Head** (49°23'N., 55°24'W.), high, cliffy, and conspicuous. Southwest Arm extends 4 miles S of the head, is clear of dangers in its outer part except near the shores, but the inner part is encumbered with shoals. The E shore is low and densely wooded. The town of **Point Leamington** (49°21'N., 55°23'W.) is situated on the W shore near the head of the arm. Two public piers and a private wharf, the largest with a depth of 3.4m alongside, are situated at the town. A light is shown from a tower at the head of the largest pier.

**Anchorage.**—Anchorage can be taken in the arm off Point Learnington, in depths of 18.3 to 21.9m.

**Directions.**—A vessel proceeding to the head of Southwest Arm should steer to pass about 0.5 mile NE of Brimstone Head. Then steer to pass 0.15 mile NE of the N end of **Passage Rocks** (49°22'N., 55°23'W.). From this position steer a course of 190° up the arm. In favorable light, the shoal with a depth of 1m lying in mid-channel E of the lighted pier head, can be seen and passed 90m to the W.

**West Arm** (49°23′N., 55°25′W.) extends about 3 miles SW of Brimstone Head. An island and islets lying 2 miles SW of the head constrict the channel to a width of 0.2 mile, but it is clear of dangers.

**Anchorage.**—Anchorage can be taken in the basin at the head of West Arm, in a depth of about 36.6m, good holding ground of mud.

**7.51 Wild Bight** (49°30'N., 55°23'W.) is entered between **North West Rocks** (49°30'N., 55°22'W.) and **Wild Bight Point** (49°30'N., 55°23'W.). A blunt projection divides the head of the bight into two coves, where small vessels can find shelter during E winds. Leading Tickles Light (49°30'N., 55°24'W.) is shown from a point marking the E entrance of the S channel of Leading Tickle.

**Off-lying islands.**—The coast between Wild Bight Point and **Thimble Head** (49°28′N., 55°31′W.) is fronted by two groups of islands lying as far as 2 miles offshore. The passages between the outer group and the mainland are known as Leading Tickles. The passages between the inner group of islands fronting two bays are known as Thimble Tickles.

**Sculpin Island** (49°33'N., 55°24'W.) is the outermost of all the islands. Woody Island, 56m high, lies with its E point about 0.8 mile S of Sculpin Island. Green Island, lying about 0.2 mile E of Woody Island, rises in three parts, the middle and highest part in dark gray cliffs; the summit is covered with grass. Tinker Island is separated from the W end of Woody Island by a channel, 90m wide, which is clear of dangers. The channel between Tinker Island and the NW point of Alcock Island is encumbered by Gunning Rock, 2.7m high, and shoals.

**Alcock Island** (49°31'N., 55°25'W.) is the high, densely-wooded S island of the group. **Cull Island** (49°30'N., 55°27'W.) is separated from Alcock Island by a channel 0.2 mile wide and from the mainland by a channel 90m wide. The latter channel is spanned by a highway bridge and causeway with a vertical clearance of 3.7m. The W part of the island is a wooded ridge; the N part rises in dark, vertical cliffs.

**Anchorage.**—Mooring Cove, indenting the E part of the S coast, affords anchorage for small vessels, in 23.8m; larger vessels can anchor, in depths of 32.9 to 36.6m.

**Burnt Island** (49°31'N., 55°28'W.) lies 0.25 mile NW of Cull Island. Thomas Rowsell Island is separated from the S end of Burnt Island by a passage 90m wide, and from Cull Island by a channel 0.15 mile wide.

**Anchorage.**—Anchorage can be taken in the channel between Burnt Island and Cull Island, in depths of 21.9 to 27.4m, sand, sheltered from all winds except those from between the NE and E.

**7.52 Leading Tickles** (49°30'N., 55°26'W.), the passage between the islands and mainland, has a least depth of 3.4m over a bar extending from the SE end of Cull Island to the mainland.

The Ladle, a high, square rock, lies on a shingle beach close SE of the bar. There is a least depth of 10m in the passage between Alcock Island and the mainland.

**Butler Cove** (49°30'N., 55°25'W.), indenting the mainland about 0.5 mile E of the bridge, has a settlement and conspicuous white church along its shores. There is a T-head public pier, with a depth of 4.6 to 4.9m alongside, situated close W of the settlement.

**Anchorage.**—Anchorage can be taken by small vessels, in good weather, in a depth of 21.9m, in the cove, but NE gales cause heavy seas to roll into the cove. There is also anchorage W of the narrows between Alcock Island and the mainland, in depths of 21.9 to 31.1m.

**Thimble Tickles** (49°29'N., 55°29'W.), the passages between the islands fronting two bays, is joined by Main Channel which fronts the mainland. The two bays lie between **Cumlins Head** (49°29'N., 55°28'W.) and **Thimble Head** (49°29'N., 55°30'W.), separated by a promontory.

Glovers Harbor (49°28'N., 55°29'W.) is a basin at the head of the E bay. The entrance channel is constricted to a width of 45m, with a least depth of 10.1m. There is a shallow public pier near the head of the harbor, where anchorage can be taken, in a depth of 18.3m, mud. Thimble Tickle Head is the W entrance point to the W bay. Goat Island lies close to the W shore of the bay, about 0.5 mile S of the head.

**Anchorage.**—Anchorage can be taken SE of Goat Island, in a depth of 31.1m.

**7.53 Seal Bay** (49°27'N., 55°32'W.) is entered between conspicuous, cliffy Thimble Head and **Inner Seal Head** (49°29'N., 55°32'W.). The shores of the bay rise in thickly wooded hills. Depths are great and the bay is clear of dangers in mid-channel. A heavy swell rolls into the bay with strong NE winds. Small vessels may find sheltered anchorage in the coves indenting the E shore of the bay. Gull Island, 56m high with a grassy summit, lies about 0.2 mile offshore, 1.35 miles SSW of Inner Seal Head.

**Lockport Harbor** (49°27'N., 55°30'W.) is formed by a bight fronted by an island on the E side of Seal Bay. There is a settlement along the shores of the harbor; anchorage can be taken by small vessels, in depths of 12.8 to 16.5m. The swinging room is limited by a rock, with a depth of 5.5m, lying in the middle of the harbor.

**Side Harbor** (49°26'N., 55°35'W.), on the W side of the bay, affords anchorage, in depths of 27.4 to 38.4m, rock, exposed to NE gales. **Mill Cove** (49°22'N., 55°35'W.), near the head of the bay, is constricted and shallow.

**Anchorage.**—Anchorage can be taken off Mill Cove, in depths of 34.7 to 38.4m, good holding ground, partly sheltered.

**7.54 Badger Bay** (49°28'N., 55°38'W.) is separated from Seal Bay by a large, densely wooded promontory. **White Point** (49°29'N., 55°34'W.), the NW extremity of the promontory, is formed of white limestone rock, projects from the cliffy coast, and forms a conspicuous contrast with the wooded hills backing the point. Badger Bay is entered between **Locks Harbor** (49°28'N., 55°36'W.), a small exposed bight, and the NE end of **Duck Island** (49°29'N., 55°38'W.). The E shore of the bay is steep-to and wooded for 5 miles within the entrance. The SW part of the bay is divided into five small bights, with **Gull Is**-

**land** (49°26'N., 55°38'W.) conspicuous in the middle. **The Brandies** (49°27'N., 55°38'W.), which dry, are marked generally by breakers. Georgies Rock, on which the sea breaks, lies 0.5 mile N of the Brandies. The area SE of Duck Island is foul as far as 0.25 mile off.

**Wild Bight** (49°24'N., 55°40'W.) is the SE bight at the head of Badger Bay. Pennys Brook flows into the W side of the bight. Above-water rocks lie 0.25 mile off the mouth of the brook.

**Anchorage.**—Anchorage can be taken, clear of the rocks, in depths of 32.9 to 36.6m. Anchorage can also be taken S of Gull Island, sheltered by islets and rocks fronting the E side of the anchorage, which is approached from the W through a clear passage. There are depths of 20.1 to 23.8m, mud, at the anchorage.

## Badger Bay to Cape St. John

**7.55** The coast between the entrances of Badger Bay and Green Bay, 20 miles NNW, is indented by inlets and arms of the sea. It is fronted by an archipelago, which includes several large islands.

Between Green Bay and Cape St. John, about 20 miles NE, the coast is indented by numerous coves separated by bold, wooded headlands.

**Ice.**—Ice within the archipelago is often kept off the shore by the tidal currents setting out of the deep arms. A SE wind packs the ice into Green Bay and onto Cape St. John.

**Tides—Currents.**—Tidal currents in the various tickles of the archipelago are generally weak and are modified by currents set up by wind. The resultant flow usually sets through the tickles following the channels. The current sets S off Cape St. John.

**Burton's Harbor** (49°28'N., 55°41'W.) indents the NE extremity of the promontory forming the NW side of Badger Bay. It affords anchorage, in depths of 14.6 to 21.9m, open to the NF

**Sops Arm** (49°27'N., 55°46'W.) is entered between the densely wooded and conspicuous Sops Head, and a point 0.75 mile S. Kay Island lies in the entrance of the arm. The preferred entrance channel leads S of the island to a good anchorage near the head of the arm, in depths of 21.9 to 27.4m, subject to surge during E gales.

**Tommy's Arm** (49°28′N., 55°47′W.) is entered between Sops Head (49°28′N., 55°45′W.) and a point 0.2 mile N. An islet lies in the middle of the arm, about 0.5 mile W of Sops Head. Ships load pulpwood W of the islet, secured by stern moorings leading to ringbolts anchored in rock on the islet.

**Anchorage.**—Sheltered anchorage can be taken throughout the arm, in depths of 20.1 to 34.7m. Pulpwood is loaded into ships at anchor near the head of the arm, in depths of 21.9m, mud. Ships load heading E, with their sterns secured to ringbolts on the N shore.

**Little Denier Island** (49°33'N., 55°32'W.), wooded and with a flat summit, lies NE of **Ragged Point** (49°33'N., 55°33'W.), the N extremity of **Triton Island** (49°31'N., 55°37'W.). A chain of islets and rocks lies in the passage entrance between Little Denier Island and Ragged Point. There is a channel about 135m wide between the dangers. League Rock lies on a

bank about 2 miles NE of Little Denier Island. Rocky patches in the vicinity of the rock make for a confused sea in bad weather.

**Great Denier Island** (49°32'N., 55°33'W.) lies close off the S extremity of Triton Island. The bight NW of the island is foul and unsheltered. From the island, the S side of Triton Island is indented by **Card's Harbor** (49°31'N., 55°37'W.), where there is good shelter for boats. There is a public wharf, with a depth of 4m, at the outer end. The coast is wooded, cliffy, and very bold as far as **Pretty Tickle** (49°29'N., 55°41'W.).

**7.56** Pilley's Island Harbor approaches.—Pretty Island (49°29'N., 55°42'W.), bold and densely wooded, lies close WSW of Pretty Tickle, which is suitable only for small vessels. **Raft Tickle** (49°28'N., 55°43'W.), the main approach to Pilley's Island Harbor, lies W of Pretty Island. Raft Island, within the entrance, is encircled by foul ground which constricts the channel to a width of 0.1 mile, with a least depth of 12m.

**Flat Rock Tickle** (49°29'N., 55°45'W.), the W approach to the harbor, is entered close E of Tilleys Head and close W of the S end of Pilley's Island. Flat Rock, lying in the middle of the tickle, is encircled by above and below-water rocks and foul ground which closes the passage S of Flat Rock; the passage N is less than 90m wide. A combined bridge and causeway spans Flat Rock Tickle. The vertical clearance under the bridge is 1.8m.

**Caution.**—A submarine cable lies between a cove close W of Tilleys Head and the coast of Pilley's Island, about 0.8 mile NE. Mariners are cautioned not to anchor in this vicinity.

**7.57 Pilley's Tickle** (49°32'N., 55°40'W.), the NE approach to Pilley's Island Harbor, is entered between **Horse Chops Head** (49°32'N., 55°39'W.), the NW end of Triton Island, and Fox Head, located 0.5 mile NW. **Stuckey Cove** (49°32'N., 55°40'W.), almost 0.8 mile SSW of Fox Head, affords anchorage, in depths of 18.3 to 36.6m. A conspicuous, wooded hill overlooks the SE side of the cove. At **Dogfish Point** (49°31'N., 55°39'W.), the tickle is constricted to a width of 0.75 mile. Dogfish Rock, with a depth of 0.6m, lies in the channel W of the point, leaving a fairway about 90m wide and 14.6m deep E of the rock, which usually is visible.

**Big Island** (49°31'N., 55°41'W.) lies close to the SE side of the tickle.

**Bumble Bee Cove** (49°31'N., 55°42'W.), encumbered with rocks and shoals, but available to small vessels with local knowledge, lies opposite the island. The narrowest part of Pilley's Tickle is entered about 0.8 mile SW of Big Island, where the fairway is 90m wide and 21.9m deep. From the narrows to the entrance of Pilley's Island Harbor, the tickle is encumbered with numerous dangers.

**7.58** Pilley's Island Harbor (49°30'N., 55°43'W.) (World Port Index No. 1520) has Bridges Island (49°29'N., 55°43'W.) lying in the harbor entrance. The usual entrance passage lies W of the island. Ledrew Rock, with a depth of 5.5m, lies in the fairway 135m WNW of the island. Vessels of considerable size can use the harbor, as a least depth of 10m can be carried through the entrance channel. The harbor is normally navigable from mid-May until the latter part of December. The

entrance into the harbor is constricted and intricate. Local knowledge is necessary.

**Depths—Limitations.**—At a settlement along the shores of the harbor, there is a public pier with a depth of 3.4 to 4m alongside its outer face. The wharf was reported (1997) to be in disrepair.

**Anchorage.**—Anchorage can be taken outside the harbor entrance, in depths of 32.9 to 36.6m, mud, with the middle of Fox Island bearing 273°, distant 0.75 mile, but the holding ground is not good. Vessels should avoid anchoring on Callaghans Ground (close off the NW side of Pretty Island), as the bottom is rocky and anchors will drag. Vessels within the harbor lie at anchor with their sterns made fast to ring-bolts, and secured into rocks around the anchorage.

**Directions.**—Pilley's Island Harbor is normally entered W of Bridges Island. Vessels should approach from between the buoys and steer along the W side of Bridges Island until a church in the middle of a small projection at the head of the harbor, 1.75 miles N of Fox Island, bears 359°, just open E of Picnic Island. This leads NE of Ledrew Rock, then a midchannel course W of Picnic Island and Graveyard Island leads to the anchorage.

**7.59** Norths side of Triton Island.—The E entrance point of Little Triton Harbor lies about 1.8 miles W of Ragged Point. The harbor is entered on either side of Big Triton Island, which lies in the entrance. A light is shown from a the NW extremity of the latter island. The E entrance to Little Triton Harbor is 54.9m wide and a rock with a depth of 4.6m lies in midchannel, but there is 9.1m close to the E shore. This entrance requires local knowledge. The W entrance is constricted, with depths of 14.6m in the fairway.

**Depths—Limitations.**—There are two wharves on the W side of the harbor. The public wharf, reported (1997) in disrepair, has a depth of 2.4m alongside. A fish plant wharf lies close to the N and it is 75m long. The outer 46m has depths of 5.2 to 7.3m alongside. A checkered water tank lies about 0.3 mile SSW of this wharf.

**Anchorage.**—Anchorage can be taken by small vessels in the harbor, in a depth of 16.5m, sand.

**Great Triton Harbor** (49°32'N., 55°36'W.) is entered between Big Triton Island and **Brighton Tickle Point** (49°33'N., 55°37'W.), also known as Dark Tickle Point. Great Tinker Island lies in the approach, about 0.4 mile NNW of Big Triton Island Light. A settlement, Triton West, is located on the E side of the harbor.

**Tides—Currents.**—High water full and change occurs about every 7 hours. Springs rise 1.4m and neaps rise 0.9m.

**Anchorage.**—Anchorage can be taken in the cove, in 12.8 to 31.1m.

**Caution.**—A submarine cable is laid across Great Triton Harbor, 0.5 mile SW of the W entrance point of Little Triton Harbor.

**7.60** The **Brighton Tickle Islands** (49°33'N., 55°38'W.) is a group of islands, islets, and rocks separated from the W part of the N coast of Triton Island by **Brighton Tickle** (49°33'N., 55°37'W.). Brighton Tickle Island and Cobbler Island are

connected by a bridge with a vertical clearance of 2.7m. Triton Island is joined with Brighton Tickle Island by a causeway. There is a least depth of 11m in the narrows near the W end of Brighton Tickle.

**Cobbler Tickle** (49°33'N., 55°38'W.) is located between the NW side of Brighton Tickle Island and Cobbler Island. The settlement of Brighton lies on the S shore of the tickle.

On the N shore there is a public wharf with depths of 2.1 to 4.6m along both sides.

**Anchorage.**—Anchorage can be taken in the tickle, in depths of 11 to 31.1m.

Pilley's Tickle, which separates Triton Island from Pilley's Island, is entered between **Horse Chops Head** (49°32'N., 55°39'W.) and Fox Head, the NE extremity of Pilley's Island, about 0.5 mile NW.

Stuckey Cove lies on the W side of the tickle, about 0.8 mile SSW of Fox Head; it affords anchorage, in depths of 18.3 to 36.6m.

Pigeon Island, 18m high, lies about 0.4 mile SSW of Horse Chops Head. At Dogfish Point, about 0.8 mile S of Pigeon Island, the tickle narrows to a width of 0.25 mile; Dogfish Rock, with a depth of 0.6m, encumbers the channel, leaving an available channel E of the rock only 91m wide. Although this danger can usually be seen, caution is required.

Nogood Island, 23m high, small, and wooded, lies about 0.1 mile off the W shore, about 0.2 mile SW of Dogfish Point.

Big Island, 85m high, lies close to the SE side of the tickle, about 0.6 mile SW of Nogood Island. The narrowest part of the tickle lies about 0.8 mile SW of Big Island. A causeway, with a bridge having a vertical clearance of 3m, crosses this part of the tickle.

A submarine cable is laid across the tickle, about 0.1 mile NE of the above-mentioned causeway.

**Long Island** (49°35'N., 55°40'W.), high and wooded, is separated from Pilley's Island by **Long Island Tickle** (49°34'N., 55°43'W.), deep and clear of dangers. A submerged cable extends S from Aspen Cove, near the W end of Long Island Tickle.

**Southern Head** (49°36′N., 55°34′W.), cliffy and wooded, is the E extremity of Long Island. A light is shown from a circular tower at the end of the head. The S coast of Long Island is steep-to and bold. Wild Bight is entered between Southern Head and Burnt Head, about 2.5 miles to the W. There is no safe anchorage in this bight.

Indian Island, 57m high, lies about 0.2 mile offshore and 1.35 miles WSW of Southern Head. The S extremity of Seal Island lies nearly 0.5 mile NE of Burnt Head. Giles Island, 17m high, lies about 0.8 mile W of Seal Island.

**Cutwell Harbor** (49°37'N., 55°40'W.), indenting the NE side of Long Island, is entered between Otter Island, 40m high, located 1 mile WNW of **Burnt Head** (49°36'N., 55°40'W.), and Giles Island. A settlement is situated on the shores of the harbor, with a public wharf having two arms. The S arm has a depth of 7.9m at its head. The N arm has a depth of 4.3m at its outer end. Cutwell Arm, S and SW of the harbor, affords anchorage to small vessels with local knowledge.

Indian Tickle is the narrow channel separating Indian Head, the N extremity of Long Island, from the island close N of it. **7.61 Ward Harbor** (49°37'N., 55°41'W.), indenting the N side of Long Island, affords good anchorage to small craft. There is a settlement and pier in the harbor. The W side of Long Island is fringed by the **Flint Islands** (49°37'N., 55°43'W.) and fronted by the **Oil Islands** (49°36'N., 55°44'W.). Lewis Island, 7m high, lies on foul ground 0.75 mile S of the NW extremity of Long Island and 0.25 mile off its W side. There are below-water rocks within 0.15 and 0.5 mile WNW of Lewis Island; the shallowest has a depth of 1.8m or less. **Suley Ann Rock** (Hail Island) (49°36'N., 55°46'W.), above-water, is the outermost danger along this coast.

**Lush's Bight** (49°35'N., 55°43'W.) is located on the S side of a high promontory. A rock and a rocky patch, with depths of 2.5 and 3.5m, respectively, lie in the harbor entrance. The patch is marked close S by a lighted buoy. A light is shown close S of the S entrance point. There is a prominent church spire situated at a settlement on the shores of the inlet.

An L-shaped public pier, with a depth of 4.6m alongside, extends from the N side of the inlet. A light is shown from a tower at the head of the pier.

**Anchorage.**—Anchorage can be taken, in depths of 4.6 to 7.3m, mud, in the harbor.

**Gull Rock** (49°41'N., 55°41'W.) is the NW islet of a group of islets and islands lying N of Long Island. A light is shown from a circular tower, with red and white stripes, on Gull Rock. The Middle Islands lie 0.75 mile SE of Gull Rock.

**Stag Island** (49°39'N., 55°39'W.) is the largest island of the group. North Harbor, between the N side of Stag Island and Little Stag Island, affords sheltered anchorage to small vessels, in a depth of 9.1m. There are numerous other dangers in the area. Local knowledge is necessary in passages between the islands.

**7.62 West side of Pilley's Island.—Spencer's Dock** (49°31'N., 55°44'W.) is the name given to a bight on the W coast of Pilley's Island. **Long Tickle Point** (49°34'N., 55°44'W.) is the NW extremity of Pilley's Island.

**7.63** East side of Sunday Cove Island.—Island Point (49°36'N., 55°47'W.) is the N extremity of Sunday Cove Island (49°33'N., 55°47'W.). The terrain within Burnt Point (49°33'N., 55°46'W.), the E extremity of the island, is densely wooded and rises steeply inshore before sloping gently to the S shore of the island.

**Miles Cove** (49°32'N., 55°46'W.), 0.5 mile SW of Burnt Point, has an L-shaped public pier, the outer section of which was reported (1997) to be in ruins and consists of drying, rock-filled cribs.

**Sunday Cove** (49°31'N., 55°48'W.) separates the S side of Sunday Cove Island from the mainland between **Haywards Head** (49°31'N., 55°47'W.) and Shoal Arm Point, located 4 miles W. A causeway connects Sunday Cove Island with the mainland. Both sides of the cove are densely wooded.

**Port Anson** (49°32'N., 55°50'W.) is a settlement on the N shore of the cove. Between the narrows and the causeway there is anchorage in the center of the cove, in depths of 18.3 to 20.1m, mud. A submarine cable is laid across the cove SE of

Port Anson. There is a foul passage leading from Port Anson SW to Hall Bay. Vessels of 3.6m draft can transit the passage at HW.

**Robert's Arm** (49°29'N., 55°48'W.) is entered about 1.5 miles SSW of Haywards Head. An islet lies in the entrance of the inlet. A 0.6m shoal lies in the approach to the arm, 0.5 mile WSW of Haywards **Gull Island** (49°30'N., 55°46'W.). This shoal can usually be seen when the sun is in a favorable position. It is marked by a buoy. A rock, with a depth of 1.8m or less, was reported (1965) to lie about 0.1 mile SSE of the shoal, in the approaches to the arm.

An L-shaped pier, with a least depth of 4.3m, extends from the SW shore of the arm. A light is shown from a mast at the head of the pier.

The arm affords good sheltered anchorage, in depths of 14.6 to 18.3m, mud.

**7.64** Little Bay Island (49°39'N., 55°47'W.) lies with Iron Point (49°38'N., 55°47'W.), its S extremity, about 2 miles N of Island Point. North Harbor (49°39'N., 55°48'W.), indenting the NE side of the island, is entered N of Harbor Island, lying in the harbor entrance. The passage S of the island is foul.

**Anchorage.**—Anchorage can be taken by small vessels, in a depth of 14.6m, mud, near the head of the harbor.

**Southern Harbor** (49°39'N., 55°47'W.) is entered between Macks Island and Goat Island, both lying in the harbor entrance. There are several rocks, on which the sea usually breaks, lying in the vicinity of the islands. A light is shown from a red and white banded, circular tower on the outer rocky islet lying SE of **Macks Island** (49°38'N., 55°46'W.). Macks Island North Light is shown from a square green and white banded tower on a rock N of Macks Island.

There is a public pier in the harbor, which can only be entered with local knowledge. A light is shown from the head of the pier.

**Halls Bay** (49°35'N., 55°49'W.) is entered between **Halls Bay Head** (49°37'N., 55°49'W.) and Island Point, about 2 miles SE, and extends SW for 17 miles. Depths are great throughout the bay. **Hunt Rocks** (49°33'N., 55°51'W.), abovewater, lie 4 miles SW of Island Point.

**Wellmans Cove** (49°34'N., 55°47'W.) affords anchorage, in depths of 14.6 to 23.8m, poor holding ground.

**Saltwater Pond Bay** (49°33'N., 55°54'W.), indenting the NW side of the bay, affords anchorage in the middle of the bay, in a depth of 12.8m, good holding ground. **Burnt Head** (49°31'N., 55°55'W.) marks the W entrance to Sunday Cove. There is good anchorage in the cove to the E of Burnt Head, in depths of 11 to 18.3m.

**Boot Harbor** (49°30'N., 55°56'W.), lying close E of Boot Harbor Head, a bold bluff, affords anchorage about 0.2 mile offshore with a pierhead bearing 150°, and the N extremity of a large islet on the W side of the harbor bearing 274°. There is a sunken rock lying 0.1 mile NNE of the pierhead.

**Anchorage.**—Anchorage can be taken as convenient near the head of Halls Bay, in depths of 18.3 to 42.1m. Small vessels can anchor off the cove about 0.5 mile SW of Burnt Island. Lower Wolf Cove lies about 4.5 miles WSW of Boot Harbor Head.

**7.65** Springdale (49°30'N., 56°04'W.) (World Port Index No. 1515), a town, is situated along the shores of Lower Wolf Cove. There are depths of 8 to 9.1m in the entrance channel leading to the berths.

**Ice.**—Halls Bay freezes between the end of January and early in February. The ice usually breaks up between April 20 and May 5.

**Depths—Limitations.**—A public wharf, 126m long, with a depth of 8.8m alongside the outer end, extends E from the shore. A light is shown from a mast at the head of the pier. Vessels loading pulpwood in West Bottom are anchored and secured astern to a crib on the W shore, in a depth of 9.1m. The holding ground is good, mud.

**Aspect.**—Several white oil tanks are conspicuous from 5 to 8 miles seaward. A white church and spire is also prominent. The hospital, a large white building, is situated about 1 mile NE of the public wharf.

**Pilotage.**—Pilotage is not compulsory. However, foreign vessels needing a pilot should contact "Pilots, St. John's" at least 12 hours prior to arrival. Pilots can be made available to board off Gull Rock or Little Dernier Island.

**7.66** Green Island, 16m high, lies close off the S entrance point of Lower Wolf Cove. A rock, with a depth of 3.7m, lies about 0.2 mile NE of Green Island.

Burnt Island, 35m high, lies about 0.4 mile SSW of Green Island. Small vessels may anchor off the cove, about 0.5 mile SW of Burnt Island.

Wolf Head, a bold headland with some trees, is located near the head of Halls Bay, where there is anchorage, in depths of 18.3 to 42m. South Brook flows into Halls Bay to the E of Wolf Head.

There is a public wharf, 67m long, with a depth of 3.4m at its outer end; the pier was reported (1997) to be in disrepair. A shipping facility for a mine which is no longer in operation, lies to the SE of Wolf Head.

Beaver Cove Head lies about 1.4 miles W of Halls Bay Head. An inlet leading to Little Bay Arm and Little Bay is entered between Beaver Cove Head and Red Island, 2 miles N.

Tom Cod Rock, a small pinnacle which dries 1.2m, with a sunken rock close W with a depth of 7.6m, lies about 0.8 mile SW of Beaver Cove Head. A lighted buoy is moored near the 7.6m patch. Little Ward Harbor is entered about 1.8 miles SSW of Beaver Cove Head.

**7.67 Little Bay Arm** (49°36'N., 55°55'W.), an extensive inlet, is entered SE of Otter Island (49°37'N., 55°54'W.). The entrance channel has a least width of 54.9m and a depth of 20.1m in mid-channel. Buoys mark the channel narrows.

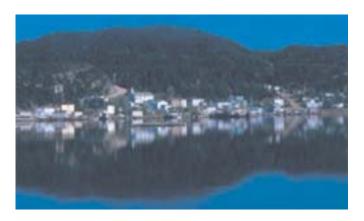
Little Shellbird Island, 30m high and heavily wooded, lies nearly 1 mile SW of Otter Island. An abandoned storage building and pier of a former copper mine lie on the E entrance point of **Goudies Cove** (49°35′N., 55°56′W.), about 0.2 mile W of Little Shellbird Island. The pier is in ruins.

**Ice.**—Little Bay Arm usually freezes over during January and clears in May; however, the arm may be closed up to June 9

**St. Patrick's** (49°34'N., 56°00'W.), a settlement at the head of Little Bay Arm, has an L-shaped public pier with a depth of 3.7m alongside.

**Anchorage.**—Small vessels can anchor near the head of the arm, in depths of 9.1 to 12.8m. Anchorage is also afforded in the bight between **Shellbird Island** (49°35'N., 55°57'W.) and the S shore, in depths of 11 to 14.6m.

**Little Bay** (49°37'N., 56°00'W.) (World Port Index No. 1510) is entered W of Otter Island. The settlement of Little Arm, situated at the head of the arm, is fronted by drying rocks lying 0.2 mile offshore. The better passage is SE of the rocks. A white church and spire at the settlement are conspicuous.



Little Arm

A public wharf, with a depth of 3m alongside the outer end, is situated at the SE part of the bay.

**Anchorage.**—Anchorage, limited to one or two small vessels, can be taken during offshore winds, in a depth of 8.2m, NE of the public pier. A heavy sea rolls in with E winds. **Red Island** (49°39'N., 55°51'W.) rises to an elevation of 37m. Red Island Rock, 12m high, lies about 0.2 mile NE of Red Island.

**7.68 Wild Bight** (49°39'N., 55°52'W.) is entered between Red Island and **South Bill** (49°40'N., 55°51'W.).

 $\label{eq:Anchorage} \textbf{Anchorage}, \text{ sheltered from } N \text{ and } W \text{ winds,} \\ \text{but with poor holding ground, can be taken in the bight. With strong } E \text{ winds the bight appears as a mass of breakers.}$ 

The public wharf is L-shaped, with a depth of 4.8m along-side its outer end. A light is shown from a mast on the outer end of this wharf. Close S of the public wharf, there is another L-shaped wharf, reported (197) to be in disrepair, with depths of 3.4 to 4.3m alongside.

**Little Bay Head** (49°42'N., 55°51'W.) is the extremity of the promontory separating Wild Bight from Three Arms. This headland rises in steep cliffs to a conspicuous, conical hill.

**7.69** Three Arms (49°42'N., 55°52'W.), consisting of Southern Arm, Middle Arm, and Western Arm, is entered between Little Bay Head and Green Bay Island (49°43'N., 55°53'W.), faced with dark gray cliffs, steep-to. Green Bay Rock (49°43'N., 55°51'W.) lies on the middle of a reef on which the sea breaks during E gales. A group of drying rocks lie about 1 mile WSW of the rock.

**Southern Arm** (49°41'N., 55°52'W.) is entered between Little Bay Head and South Arm Point. Two islands lie in the middle of the arm. The preferred channel lies SE of the islands.

**Middle Arm** (49°41'N., 55°53'W.) is entered between South Arm Point and Blackberry Head (49°42'N., 55°54'W.). Two islands lie in the entrance. The arm is entered by either of the two channels between these islands and the mainland on either side.

**Anchorage.**—Anchorage can be taken in the arm, in depths of 18.3 to 27.4m, mud.

**7.70 Western Arm** (49°42'N., 55°54'W.) is entered W of Blackberry Head. The settlement of Harry's Harbor is situated about 1 mile W of the head. There is an L-shaped public pier, with a depth of 3.7m alongside its head, situated almost 1 mile W of the head. Rocks lying off the N and S sides of the pier make for a difficult approach.

**Welsh Cove** (49°40′N., 55°56′W.), with a below-water rock lying in the entrance, affords good anchorage, in a depth of 21.9m, mud. Dollard Arm, a bight between Welsh Cove and **Dollard Arm Head** (49°40′N., 55°57′W.), affords anchorage, in a depth of 27.4m. There is additional anchorage near the head of the arm, in depths of 31.1 to 36.6m.

**7.71 Green Bay** (49°44'N., 55°55'W.), entered between Green Bay Island and the mainland 2 miles NW, extends SW for about 15 miles to the head of Southwest Arm. The SE shore of Green Bay rises to wooded headlands, of which **Nickey's Nose Point** (49°42'N., 55°57'W.) is the most conspicuous. Several coves indenting this coast afford anchorage with shelter from offshore winds.

**Stocking Harbor** (49°44'N., 55°56'W.), a cove, affords refuge and anchorage for small craft, in a depth of 18.3m, at the cove entrance, and also in **Smith's Harbor** (49°44'N., 55°58'W.), in depths of 2.7 to 3.7m, with local knowledge. A light is shown from a wharf at Smith's Harbor.

**Northwest Arm** (49°44'N., 56°00'W.) is deep, clear of dangers in mid-channel, and easy to access. Anchorage can be taken in the arm, in depths of 12.8 to 18.3m.

**Jackson's Cove** (49°41'N., 56°00'W.), indenting the SE shore of the bay, has a settlement where there is a public wharf, 41m long, with a depth of 4.3m at its outer end. The wharf was in disrepair in 1985.

**Anchorage.**—Anchorage, sheltered, can be taken in the cove, in depths of 23.8 to 29.3m.

**Middle Arm** (49°42'N., 56°03'W.) is entered between **Birchy Cove Head** (49°41'N., 56°02'W.) and a point 1 mile N. An above-water rock lies 0.25 mile SSW of the N entrance point. About 1.5 miles within the entrance, the arm narrows to 0.4 mile and there are depths of 29.3m.

A public pier, with a depth of 4.3m alongside its face, extends from the N shore of the arm. There is a small settlement adjacent to the pier from which pulpwood is exported. A light is shown from a the head of the pier.

**Anchorage.**—Anchorage can be taken about 0.3 mile W of the narrows, in depths of 18.3 to 25.6m, good holding ground.

**Southwest Arm** (49°40'N., 56°05'W.) is entered between Birchy Cove Head and a point about 0.8 mile NW. A pillar rock lies near the shore, about 2.5 miles SW of the head. Rattling Brook descends in a waterfall into Corner Brook

Cove, located in the NW shore, about 6.5 miles SW of Birchy Cove Head.

There is a public pier at Rattling Brook with a depth of 3m alongside. There is another public pier close to the head of Southwest Arm that has a depth of 4.3m alongside.

**Anchorage.**—Anchorage can be taken on a bank extending from the E side of the arm S of **Manful Point** (49°37′N., 56°08′W.), in a depth of 36.6m, about 0.3 mile offshore, and, in a depth of 18.3m, about 0.3 mile offshore. Small vessels anchor, in a depth of 32.9m off Rattling Brook, poor holding ground.

**7.72 Green Head** (49°46'N., 55°53'W.) and **Noble Head** (49°47'N., 55°41'W.) are two prominent coastal features that are high and steep-to. The latter is the termination of a promontory of dark, gray rock, the flat summit of which is grass-covered. A ledge, on which are two remarkable pinnacle rocks, extends 0.1 mile E, and a 3.4m shoal lies 0.2 mile ENE of Noble Head. A boat harbor close N of the head is formed by two breakwaters.

The **Nippers Islands** (49°47′N., 55°50′W.) are a group of six islands and several islets lying as far as 1.25 miles E of Noble Head. A light is shown from a tower situated on the SW island of the group.

**Nippers Harbor** (49°48'N., 55°51'W.) has bold shores, except for a rock lying off each entrance point. A small peninsula lying about 0.2 mile within the entrance divides the harbor into two basins. A white church with twin towers is conspicuous at a settlement on the W side of the harbor. There are several, small private piers and a salmon canning plant in the harbor.

**Anchorage.**—Anchorage can be taken, in depths of 18.3 to 21.9m, mud. Ringbolts are secured to rocks for mooring purposes. Small vessels can anchor in the NW basin, in depths of 9.1 to 11m.

**Betts Cove** (49°49'N., 55°47'W.), entered 0.75 mile NNE of Betts Head, is open to the SE, but a heavy swell rolls in during NE gales. There is a settlement and piers at the inner part of the cove. Depths decrease suddenly off the piers. A mooring buoy and ringbolts ashore assist vessels to secure alongside the various piers.

**Snooks Arm** (49°51'N., 55°41'W.), a deep-water inlet, has a fishing pier and settlement at its head. Vessels can anchor, but swinging room is limited.

**Round Harbor** (49°51'N., 55°39'W.), entered close W of a head, has an entrance 36m wide and affords a safe haven for small vessels during bad weather as long as entrance is possible. There is a public pier at the head of the harbor with a depth of 3.7m alongside.

**7.73 Tilt Cove** (49°53'N., 55°37'W.) (World Port Index No. 1480) is entered about 0.5 mile NNE of **Scrape Point** (49°52'N., 55°38'W.). The E shore of the cove is fronted by cliffs and several drying rocks. Lying parallel to the W shore of the cove is a wharf. The wharf is partially collapsed and in ruins. Abandoned mining buildings are nearby. There is a settlement along the shores of the cove.

**Shoe Cove** (49°55'N., 55°34'W.) is entered between **Monks Ground** (49°55'N., 55°33'W.) a 4.6m ledge extending 0.1 mile

offshore, and a point over 0.5 mile E. Several detached banks, with a least depth of 16.5m, lie off this part of the coast. Shoe Cove Rock, with a depth of 2.4m, lies 0.5 mile SW of the E entrance point of the cove. Caplin Cove Rock, with a depth of 12.8m, lies 0.25 mile SW of the same point.

Several landslides, conspicuous on N bearings, mark the hills around the cove.

A public pier, with depths of 0.9 to 1.8m alongside, is situated at a settlement in the cove.

Anchorage can be taken, in depths of 20.1 to 25.6m, within the cove, where moderate gales from between the NE and NW pose a nominal threat.

**Bishop Rock** (49°56′N., 55°27′W.), 9.1m high, bare, and steep-to, lies 1.5 miles ESE of Manful Head. South Bill of Cape St. John rises in steep cliffs about 1.5 miles N of Manful Head.



#### Shoe Cove from SSW

**Gull Island** (50°00'N., 55°22'W.) is steep, except on its N side. Landing is effected on the S side of the island at the mouth of a valley between two hills. Breakers have been reported about 0.3 mile W of the island, and the sea breaks in heavy weather on an 18.3m patch 5.5 miles NNE of Gull Island. A depth of 15.1m lies 6 miles NNE of Gull Island Light. A light is shown from a red and white striped, circular tower situated on the summit of the island.